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Palmtop

The journal for Psion Series 3 and 3a users

Issue 2, Volume 1 **March / April 1995**

News, reviews, gossip, feature articles, programming, letters, hints & tips, tutorials and more...

...56 pages of up-to-date information on your favourite PALMTOP computer!

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Thanks...

Special thanks for this issue go to Chris Love at Clove Technology for supplying me with a new 2Mb 3a so quickly, Mark Needham at Widget Software for supplying review copies of Winlink3 and Widget Games 3a, Purple Software for the review copy of DataView and Joe Odukoya at Psion for supplying the Psion Games 3a. Thanks also for all the above (and others) for their general help, support and encouragement with PALMTOP.

Thanks also to all the contributors whose names appear within the magazine, particularly Andrew Baldwin for his regular programming articles and Pete Sipple for his numerous contributions and endless help and encouragement on the project. Also not forgetting my girlfriend, Rosemary, for so diligently proofreading the entire content of the magazine.

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or *100602.3723@compuserve.com*

Submissions

Any contributions of material published within the pages of PALMTOP (excluding 'On The Net') will earn the author one free issue added to their subscription. If you wish to write feature articles for the magazine then please contact the editor to discuss your ideas. Any articles over 1000 words in length will earn one year's extension to the author's subscription, or a minimum payment of £20 (or foreign equivalent).

Back Issues

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General

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Editorial

The past two months have been pretty hectic. *Palmtop* subscriptions have jumped well into three figures already, and this is mostly via nothing more than a few postings on the Internet and a mention in Steve Litchfield's *3-Lib* shareware library catalogue.

I have been greatly heartened by the enormous number of positive comments from those who read the first issue. I was the only person to have seen it up until only a few days before its release, so I was always a little unsure as to what kind of reception it would receive. My concerns were unfounded.

In the space of just one issue the success of the venture so far has allowed the magazine to move from being hand-printed on a 300dpi laser printer then individually cut, folded and stapled by hand to being produced as 1000dpi camera ready artwork for printing and finishing by a proper print shop. Despite the fact that all the 3a screen shots in the magazine are at the much lower resolution of the 3a itself, I hope that you'll agree that the higher quality does at least make the text of the magazine a little easier to read.

Aside from all the positive things going on with *Palmtop*, I have to apologise again for the lateness of this issue—at least relative to the dates shown on the front cover. I was hoping to catch up a little after the release of issue 1, but there have been so many other tasks to deal with relating to the setup of a new business that things have simply taken rather longer than planned. I am still producing *Palmtop* as a spare-time venture only, and I have to give full commitment to my day job. Having said this, the amount of work relating to the setup of *Palmtop* will gradually subside as time passes, and I gradually intend to get the timing of the magazine on track.

Please be assured that even now only the date on the cover is incorrect—the content of *Palmtop* is always bang up-to-date!

Finally, you may notice that this issue is very light on shareware reviews. This is largely due to the number of new or impending commercial software packages appearing in the past two months, plus the inclusion of a few items that were promised from the last issue. One of the primary goals of *Palmtop* is to provide topical reviews of *all* major items released since the last issue, so don't worry—shareware reviews will be back in issue 3 with a vengeance!

Steve Clack - Editor

Palmtop News

The latest hot gossip on what's happening in the Psion world

Series 3a range extended

As mentioned in the last issue of Palmtop, Psion have just released two new Series 3a machines to extend the current range to four. More details are given in the mini-review on page 49.

New Psion handheld computer

A brand new handheld computer, the *Workabout*, has just been launched by Psion. The machine is styled similarly to the older *Organiser II* and *HC* machines, but offers sixteen-bit processing power and up to sixteen megabytes of storage in a tough and robust casing, with a high resolution screen displaying either graphics or up to 11 lines by 40 characters of text.

Although supplied with its own text editor, Lotus 1-2-3 compatible spreadsheet and OPL built-in, this machine is not targeted at existing Series 3/3a users. Instead, the Workabout is designed for so-called vertical market applications where commercial concerns will purchase the machine in relatively large quantities, writing their own software for specific commercial applications. The splash proof, drop resistant casing makes the *Workabout* particularly suitable for on-site data acquisition tasks, and we can expect to see the machine appearing in all walks of life over the coming months.

With prices starting at only £240, Psion are clearly hoping to get the *Workabout* into every possible location. This kind of specialist machine has typically been priced at three or four times this level in the past, so Psion's pricing strategy alone is likely to increase the impact of the machine substantially.

For more details on the *Workabout* contact Psion's Corporate Sales Centre on 0171 258 7366.

New software for Windows users

A major new connectivity package to allow data transfer between the Series 3/3a and Windows-equipped PC computers is due for release in June. Please refer to 'A Closer Look' in this issue for a full review of this ambitious and significant new product.

Psion resurrects user bulletin

Psion are currently distributing the first (Spring 1995) issue of *Psion User*, a new quarterly magazine for its customers. Similar in content to their now-defunct *Psion News* of a few years back, the 20 page colour pamphlet concerns itself primarily with the various applications of its handheld computer products around the globe.

The general quality and content of the magazine is excellent, and although obviously intended as a vehicle to publicise the company's products almost everyone should find something of interest within.

Psion User is distributed free to registered users.

Soundmaster still imminent...

Psion's own sound manipulation software, *Soundmaster* (originally planned for release last September) is now claimed to be ready for release within the next week or so. We are expecting a review copy for *Palmtop* any day now, so a full article should appear in issue three...

Psion doubles profits

Psion have announced pre-tax profits of £6.55 million for the past year, more than double the previous year's figure. Sales also rose by almost 50 percent over the same period, to £61.3 million.

Psion have attributed the success largely to sales of the Series 3a and peripherals—obviously a winner!

3a to get in on the ACT...

ACT!, Symantec's popular contact management package for DOS, Windows and the Apple Macintosh is due to be ported to the Series 3a in the Autumn.

ACT! has already sold more than one million copies worldwide and is the company's fastest selling product. Like the existing variants, the Psion-based version will feature an easy-to-use contact database, activity scheduler and a sophisticated report generator. It is designed to help salespeople, account managers, travelling executives and other mobile workers to keep track of every aspect of their customer base.

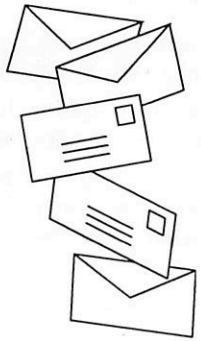
ACT! for the Psion will of course allow easy transfer of all data between the desktop and 3a versions of the package and this transfer software will be supplied on floppy disk with the Psion SSD.

The product is due in the shops in September—pricing is not available at present.

Nokia phone link planned

Psion will shortly be releasing the *SMS Link*, incorporating software and cabling for connection to Nokia 2110 and Nokia Orange phones. Expect more details in the next issue of *Palmtop*.

Readers' Letters



This is an opportunity to voice your opinion on all those contentious Psion-related subjects and help to fund your *Palmtop* subscription at the same time.

EVERY published letter gets the author one free issue added to their subscription plus the dubious fame associated with being a *Palmtop* contributor.

Firstly, I'd like to thank the many people (including some *very* notable figures from Psion) who have written, telephoned or e-mailed to express their support and encouragement for *Palmtop*. I don't think it's appropriate to publish lots of complimentary remarks within these pages, but I'm enormously gratified that all the hard work of everyone concerned with the mag' is producing so many satisfied customers. Thanks to all contributors past, present and future for helping to make *Palmtop* a success! - Ed.

Dear Palmtop

Tough and durable? Not the imprints on *my* keys. After just eight months use the <Psion> key has lost its cusp, little remains of the cursor right arrow, <Esc> has almost gone, and <Enter> is looking fainter by the day. The keyboard is in frequent use—but isn't that what it's for? The fading continues although I check my finger-ends are not greasy and take care to see nothing else comes into contact with the keys.

Alas, soon it seems nasty bits of paper must be stuck on individual keys, for something will be needed to identify them. Yes, after a lifetime of journalism I do know my way round a keyboard, but I am hoping to move up to a 1M or even 2M Series 3a soon—and who is going to buy my 512K, albeit not-very-old, with several blank keys? How could Psion fail so sadly on something so important?

Also, I've never seen any mention of how the special marks over the Psion logo are made and to me it seems they are the letters P-S-I-O-N cut up and rearranged. Am I right?

Jill Dick
Chapel-en-le-Frith, Derbyshire

I agree. Surely the characters could have been moulded into the plastic of the keytops or something? I've never seen this problem on a full-sized computer, and one must assume that very few Psion keyboards get anything like the level of usage a desktop computer has to suffer.

If it's any consolation, Psion offer a keyboard replacement as part of their 'Cosmetic upgrade' service. They will replace the entire casing and LCD surround and replace individual keys or complete keysets as necessary. The service costs £35, or £30 for *Gold Support Service* members. Personally, I concur that this is a failure on Psion's part and would be reluctant to pay £35 to patch up a poorly manufactured component.

Concerning the logo, erm—It *looks* as though you may be right—I must confess I've often wondered where it came from. Can anyone put us out of our misery? - Ed.

Dear Palmtop

Further to your request for input from non-PC users I would like to tell you a little about my particular 'flavour' of home computer. I use my Series 3a in conjunction with an *Atari ST*, as I did with my old Psion Organisers.

Recent backups of Series 3 files have become so much easier with the discovery of *S3-ST*, a gem of a comms utility developed by Keith Baines of 8 Lumley Court, Denmark Avenue, London, SW19 4HQ. This program is freeware and of excellent quality, and it has revolutionised the ease with which files can be transferred between the Atari and the 3/3a. Additionally Series 3 files can be viewed or printed via the Atari.

Backing up and restoring S3 files previously involved much typing of instructions or selection of file names in VT52 or other comms utilities. S3-ST has banished all that and the superb graphical interface allows point, click and drag selection.

In order to transfer files, you select them by clicking on them in the 'Series 3' or 'Atari' window on the Atari monitor and then just drag the selected files to the destination directory on the other computer's window. This allows effortless moving, copying and deleting. S3-ST has recently undergone a major upgrade to v1.80, and now includes a new desk accessory for viewing Series 3/3a DATA files, plus some other new features and a couple of bug fixes.

If any Palmtop Atarian has not tried this program then rush out and order it now, either from the usual shareware sources or directly from Keith Baines, who I'm sure will be happy to supply it in return for a disk and S.A.E.

The Atari makes a fine complement for the S3/S3a as the DOS standard files can easily be copied, printed or viewed, and now with Keith's utility the transfers have become more pleasurable.

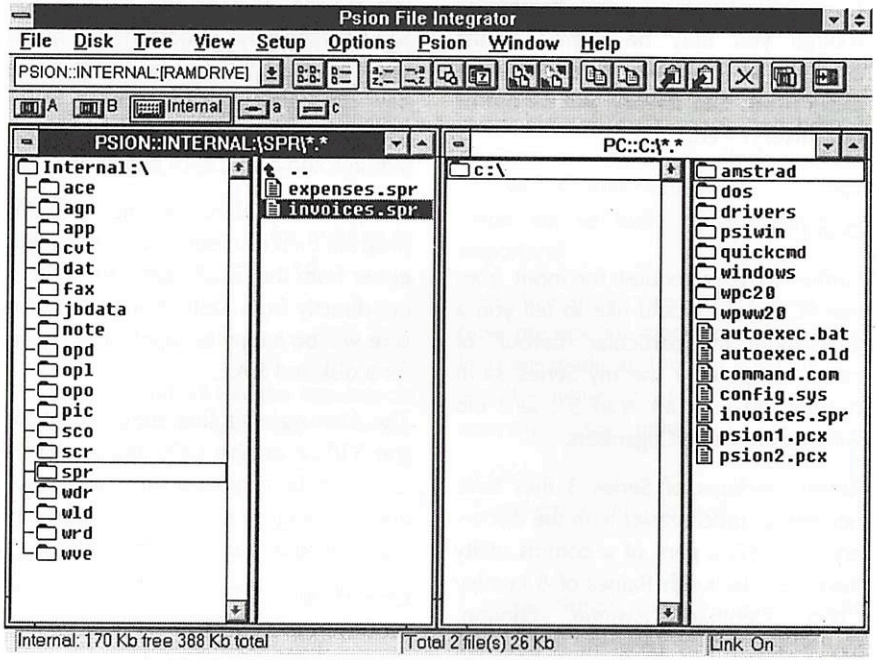
Chris Phelps
Brockworth, Gloucester

A Closer Look...

...at some of the newest and most interesting products available for your Series 3/3a

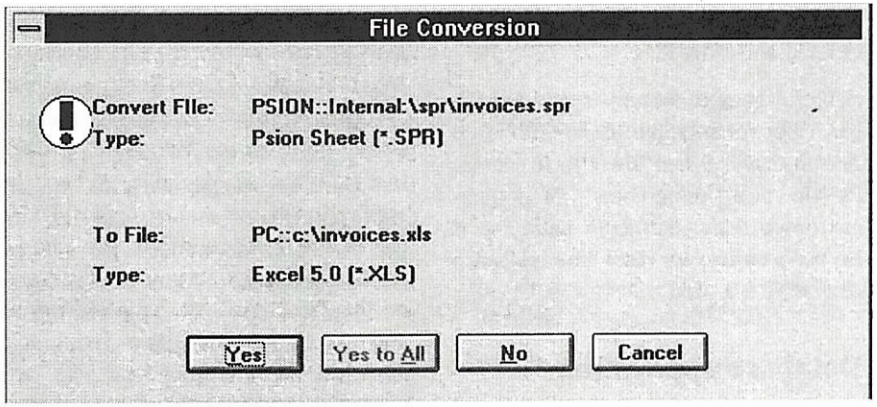
PsiWin

Whilst the Series 3/3a is well designed and features an excellent range of software in ROM, the major area of weakness has always been that of connecting it to a PC for the purpose of file transfer and file conversion. Anyone who has used the standard Psion *3Link* cable and software will certainly attest to this, as any file transfer from the 3a is a long and tedious process. This contrasts with the Hewlett Packard HP200LX and the Sharp IQ-8920, both of which offer serial link kits with DOS or Windows software which makes the whole process quite painless. For many 3a users the only way to overcome this problem has been to invest in programs like *Agenda Link* and *Winlink*, both from Widget Software.



All ready to drag and drop...

However, the forthcoming release of *PsiWin* from Psion themselves is a momentous event. Not only does this Windows program offer file transfer capabilities between the Psion and a Windows PC, but file conversion and a whole host of other goodies are also included.



Simple and seamless file conversion

The file transfer and conversion side is handled by the *Psion File Integrator*. This looks similar to Windows' File Manager and allows data to be copied or moved to and from the Psion by simply dragging and dropping. Because all this is done from the PC end it's both fast and easy. However, the *Integrator* goes way beyond this by offering a range of file conversion options. Hence you can copy or move a file in either direction and have PsiWin automatically convert the file type *en route*.

The full list of file conversion formats supported is:

Data files: DBF, CSV, TXT, Lotus Organizer 1.0 address files, Works for Windows 3.0.

Agenda files: Act 2.0 dates, Lotus Organizer 1.0 dates, Microsoft Schedule+.

WRD files: Ami Pro 3.0, RTF, ASCII, ANSI, Works for Windows 3.0, WordPerfect 5.1, 5.2 and 6.0 for Windows, Word for Windows 2.0, 6.0.

SPR files: WK1, WK3, Quattro Pro for Windows, Works for Windows, Excel 4.0, 5.0.

WVE files: WAV.

PIC files: BMP.

The conversion can be automatic and transparent as you drag and drop, or you can request confirmation before

each file is changed. This is *far* quicker than saving a file in a new format within a Psion application and then copying it across to the PC.

Backup and restore

The integrator also offers backup and restore features. This allows you to select which of the Psion drives you want to backup and to exactly what location on the PC. You can also archive deleted and older files.

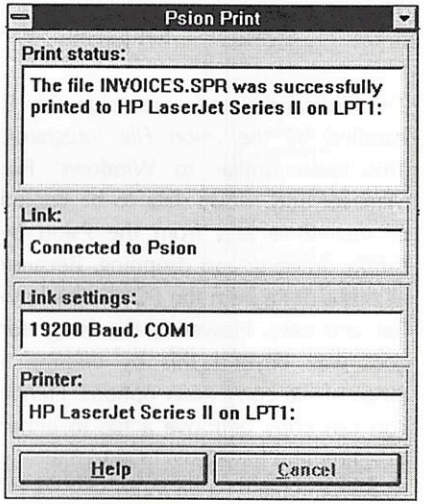
A useful general feature is that PsiWin can cater for multiple users, with each person having their own login name. PsiWin also 'remembers' all settings associated with each login name, so it isn't necessary to reset the software each time it is used.

Database application

Although you can already run the Psion database on the PC as part of the DOS Emulator *(to be reviewed in issue 3—Ed.)*, Psion have also included an enhanced Windows version of the built-in DATA application. This takes full advantage of Windows with a menu bar at the top and a series of toolbar buttons with *Tooltips* help—just leave the mouse over a button for a few seconds and a small information box appears, explaining the function of the underlying control. You can merge, compress and sort existing databases and have access to all the other functions found in DATA such as database creation, label editing and searching. Because it's a true Windows application you can also cut and paste to and from other Windows software. This makes it excellent for the fast creation of databases which you can then copy across to your Psion.

Psion Print

The other jewel in the crown is *Psion Print* which can be run from its own icon or from within the File Integrator. Psion Print allows users to dispense with an optional parallel cable, because you simply print via the Windows PC using the standard *3Link* cable. When the application is first run, it copies a DYL file to the Psion and lets you choose which *TrueType* fonts you want to install on the Psion. You can have eight in all and use them within your Series 3/3a apps just like any other font. Like any



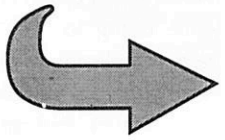
Print Status dialog from Psion Print

built-in font you see it as it will print, although you can only see the true point size in print preview mode. To print from your 3/3a just select Psion Print as the default printer and then print as normal. The document is then sent to the printer via the host PC. This can be a printer attached locally to the PC or any printer connected to a network. The obvious advantage of this approach is that unlike printing via a parallel cable, you don't need to worry about whether you can find the printer drivers you might need for a less common printer. Having access to up to eight TrueType fonts means that you can create more visually attractive documents direct from the 3a. The other benefit is that if you work in an organisation which has standardised on certain fonts for all their documentation then you can now use these straight from your Series 3 or 3a.

Conclusion

From what we've seen, PsiWin is a superb program which makes the integration of the 3a and a Windows PC incredibly easy. The range of file formats supported for the file conversion are vast, whilst the Psion Print feature is an absolute gem in its own right. This has to be the best program Psion have released in a long long time. Just buy it.

Mark Houghton.



Shareware ??

Many of our readers may be unfamiliar with *3-Lib*. This is a service run by Steve Litchfield to distribute shareware and free software available for the Psion Series 3 and 3a machines. Most (if not all) of the software distributed by 3-Lib is available from Bulletin Boards and other sources, but 3-Lib is currently the only means of getting almost the entire library of up-to-date programs from a single source.

3-Lib offers software either the entire collection (currently a couple of hundred programs, around six megabytes worth) on floppy disk, or selected programs on SSD.

If you would like more information on this service then please contact Steve Litchfield directly on (01252) 515431

or write to 3-Lib Library at:

8 Grove Farm
Mytchett
Surrey GU16 6AQ

or e-mail:

slitchfield@cix.compulink.co.uk

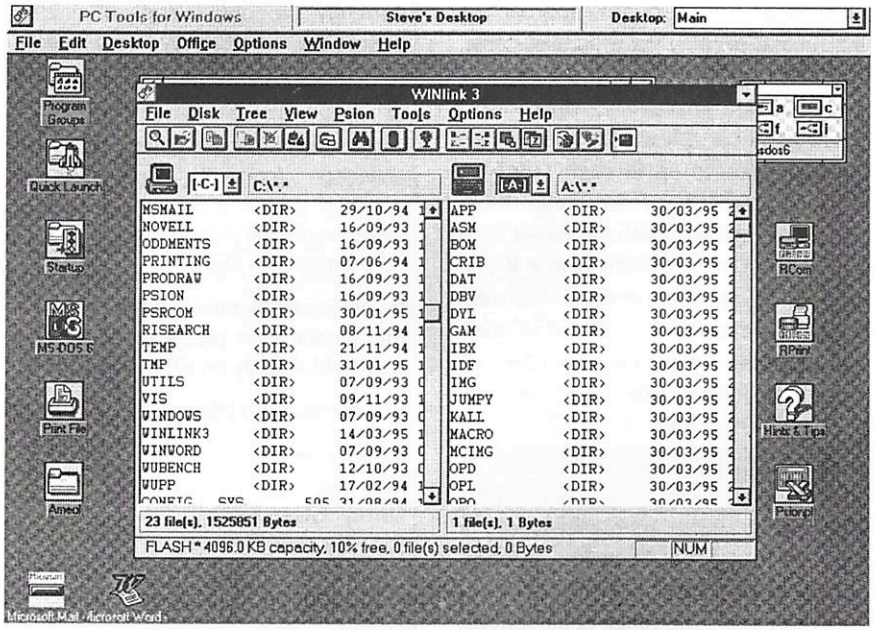
InfoBox

PsiWin is currently in beta test but should be available around June of this year. Pricing is expected to be £69.95 for the full kit including the 3Link cable, or £39.95 if you've already got the cable.

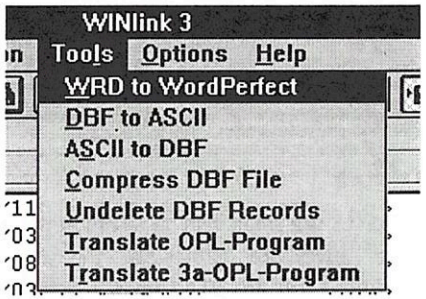
Winlink 3

It may seem a little unfair to compare Winlink 3 to Psion's new PsiWin—after all, PsiWin is not even released yet, while Winlink 3 has been around for quite some time. Winlink promises (and delivers) much the same drag-and-drop method of file copying and moving as PsiWin, and allows trouble-free backups too—even a limited range of file conversions. The question is, however, whether it poses any competition to the forthcoming PsiWin, or if it's now a program that's really past it's sell-by date.

Though I have not witnessed PsiWin first hand, a quick look at the features of the two products do not seem to look in Winlink's favour. Although it offers conversion between Psion WORD and WordPerfect or between ASCII and Psion DATA this is no match for the wide range of formats or the effortless conversion afforded by PsiWin's File Integrator. The Winlink backup system also lacks some of the flexibility of PsiWin, nonetheless it conveniently backs up whole drives to a single image file on your PC and compresses the data while doing so. The PC-resident database application, print utility and TrueType font handling are all absent from Winlink, but on the other hand it does have a useful OPL (or ASCII) program editor that PsiWin lacks.

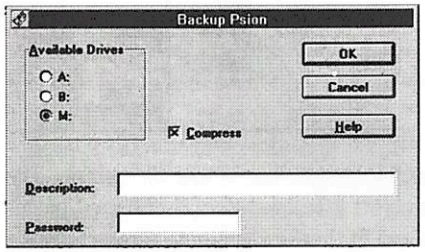


The Winlink interface—a similar appearance to PsiWin



Winlink's limited conversion formats

If you need nothing other than a means to backup files from your Series 3 and to transfer in either direction then there is little to choose between the two packages. If you don't currently own the 3Link hardware then you could save yourself some money by waiting for PsiWin's release (around June), at which point it should be supplied with the 3Link anyway. If you don't already have Winlink then PsiWin will certainly be worth the wait for anyone wanting to simplify the conversion between Psion and PC data formats. The PsiWin print utility will also be a clincher for some users, though the existing public domain RPRINT software already allows easy printing via your PC, albeit without the TrueType fonts.



Slick and quick backups

I have been using Winlink quite happily now for some months, and it is certainly a very competent piece of software. Apart from my pet dislike that the main program window is not resizeable (the exact size depends upon the screen resolution) I have had no cause for complaint. The interface is quite consistent with other Windows applications and I have never had recourse to open the manual.

It will be interesting to see what happens to Winlink over the months to come. It is already in its second major version, and it wouldn't be characteristic of Widget to sit back and see sales drop. In six months time we may well see version 3 of Winlink appearing and for this to leapfrog the features of PsiWin. Such is life in the software business.

Steve Clack.

InfoBox

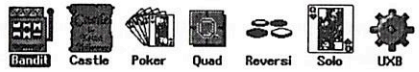
Winlink 3 (version 2) is available direct from Widget at £29.95 including VAT. Owners of the earlier version 1 of Winlink can upgrade for £19.99.

Widget Software can be contacted at:

121 London Road
Knebworth
Hertfordshire SG3 6EX

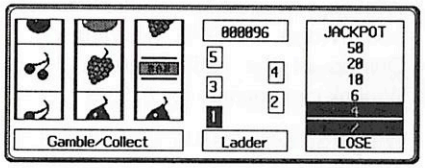
or tel: (01438) 815444
or fax: (01438) 815222

Widget Games 3a

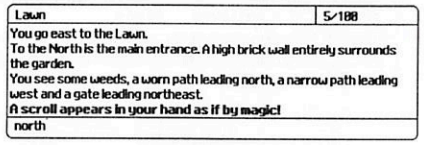


The new *Widget Games 3a* is, in many respects, not new at all. Five of the seven games on the pack are merely a re-vamp of those on their existing Widget Games 3, updated to take advantage of the 3a's better screen resolution and grey-plane. Like the new Psion Games 3a, this software will not run on the original Series 3 machines. If you have an old '3' then don't despair, as all the games except UXB and Castle are still available on the original Widget Games 3.

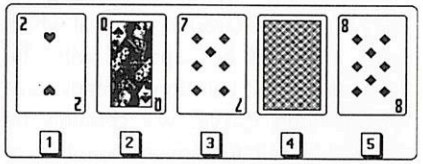
If you enjoy playing games on your 3a then the new pack is excellent value for money. Widget have somehow managed to shoehorn seven different games onto a 128K pack with less than 1K to spare. If you take the price of the software at £39.95 and subtract the £34.95 value of the Flash disk it is supplied on, then you are getting the actual games at something around 70p each!



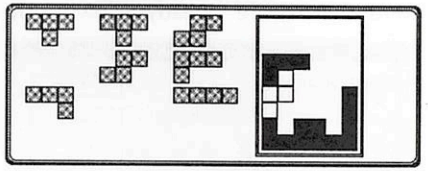
BANDIT is simply an arcade fruit machine on a 3a. You can spin the reels, hold, nudge, and increase your 'winnings' with a jackpot accumulator. Though this will appeal to gambling fans I confess that I'm not one of them—so I very quickly got bored with Bandit.


Lawn
5/188
You go east to the Lawn.
To the North is the main entrance. A high brick wall entirely surrounds the garden.
You see some weeds, a worn path leading north, a narrow path leading west and a gate leading northeast.
A scroll appears in your hand as if by magic!
north

CASTLE is a small version of the popular text adventure games of the mid-eighties. You are given textual descriptions of your surroundings at each point in the game, and are given the mission of escaping from a castle, exploring its various rooms and artefacts along the way by typing simple text commands such as 'go east', 'get key', and so on. Castle recognises only a limited vocabulary of words but otherwise plays well.

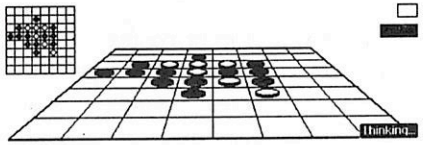


POKER needs no introduction—just a straightforward implementation of the popular card game.

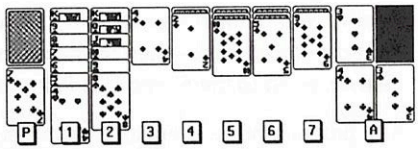


QUAD is a very simple tile puzzle. The object is to take all of the shaped pieces and fit them exactly into the rectangular box. This forms an enjoyable distraction

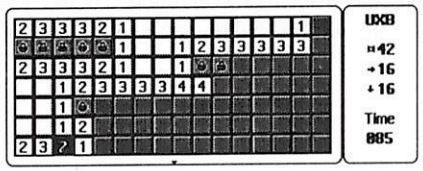
for those odd spare moments, and has 50 levels to keep you amused.



REVERSI (also known as Othello) is probably the best game of the set. This classic game sports an attractive 3-D board with a small display showing it in 2-D, plus a bar display on the right side of the screen to show the relative scores of the human player and their computer opponent. It offers four complexity levels from 'Beginner' to 'Genius' and allows your last move to be undone in case you make a slip-up. This is probably the only game of the seven you won't have tired of in six months time, but considering the price of the package you could be forgiven for buying it for Reversi alone.



SOLO is the common patience (solitaire) card game most often known as Klondike. I find that this kind of game always works well on the 3a, and Solo is no exception. The only gripe is that it doesn't support one feature of the 'real' game (at least as I remember it), in that it doesn't allow partial columns of cards to be moved to other rows—only complete ones. It's still worth many hours of play though, and is probably my second favourite after Reversi.



UXB (UneXploded Bomb) is just like *Mines*, which has been bundled with Microsoft Windows for the past three or four years. The object is to discover the location of hidden 'mines' on a squared grid by testing individual squares for their presence. Every time you uncover a 'clear' square a number appears in it representing the number of UXBs in the eight directly adjacent squares. This is probably more fun than it sounds, and logic and deduction pay a large part in the game play. Widget's version is nicely configurable, allowing you to specify the size of the grid (up to 16 by 16 squares) and the number of UXBs on it.

All in all then, this is an enjoyable set of games at a very low price. The games really don't have the level of sophistication (and sound effects!) of the new Psion Games 3a, but Widget squeezed seven of them onto a 128K Flash whereas Psion filled a 512K ROM with only five. All the Widget games have the option of showing menus in English or French, and the sound effects (just simple 'beeps') can be switched off if desired. One thing I found intensely annoying was that these would always be switched back on whenever a game was closed and re-started; this meant

this meant remembering to turn them off again every time a game was run. Aside from this everything worked just fine, and I'm still trying to get out of that @?~£%&*$ castle!

Steve Clack.

InfoBox

Widget Games 3a is available direct from Widget at £39.95 including VAT.

Widget Software can be contacted at:

121 London Road
Knebworth
Hertfordshire SG3 6EX

or tel: (01438) 815444
or fax: (01438) 815222

Having Trouble?

Are there any aspects of Series 3 or 3a operation that you are really having trouble getting to grips with?

If there's something you're finding particularly difficult then there's a high probability that other users are in the same situation. This would make the subject an excellent candidate for a tutorial article such as 'Name that Cell'.

If you have something in mind that you would like to see included in a future 'how-to' article then please contact the editor with your ideas.

RangerDisk 3

In some ways I must confess to feeling slightly frustrated with the RangerDisk 3. The ability to access a standard 720K or 1.44Mb PC floppy disk from a Series 3 is wonderful, and it does work well, but I have to admit that there are some qualifiers which may influence the perceived utility of the unit for certain people:

Firstly, the unit requires a mains adaptor for power (though a car cigarette lighter socket could be used with care—as the voltage range is quoted at 9-15V). Secondly, the process requires the presence of a 3Link cable, which for me involves wriggling around behind my desktop PC to disconnect and re-route it to the RangerDisk. Thirdly, the user interface is very inelegant compared to the built-in Psion apps with their sculpted dialog boxes and drop down menus. Finally, you cannot run files directly from the RangerDisk—they must always be transferred to the Series 3/3a first.

As a programmer and engineer I can see why the manufacturer (Ranger Computers) have chosen to do things in this fashion, but as a user I would have liked the option of battery power, or to be able to plug into the Series 3/3a directly without needing the 3Link, or to have transparent access to the floppy drive—or even all three.

Despite these reservations everything does work, and very competently so.

My first impression of the unit in use was that of being very fuss-free—I'm always impressed when hardware or software works first time!

£260. For those who need the RangerDisk's particular brand of wizardry, this unit will do the job very well. For the rest of us, it remains an interesting accessory, and one whose usefulness will need to be evaluated in the same manner as other add-ons.

Steve Litchfield.

```
Listing files - Please wait

MYFILE.WRD      28/03/95 RW FILE     4611
MYFILE2.DBF     28/03/95 RW FILE    26389
SCREEN1.PIC     28/03/95 RW FILE    32020
SCREEN2.PIC     28/03/95 RW FILE    32020


     No more files - press Enter
```

The rather spartan interface of the Rangerdisk 3

To transfer files to the RangerDisk you just connect the gear up, fire up the Series 3's Terminal application and type 'S3', then up comes the RangerDisk's operating system with a simple character-based menu. Just follow the prompts and a moment later the files are on the floppy disk. When retrieving files from floppy disk you can use wildcards in the filename, and when saving them to floppy disk you can tag multiple files. As the ultimate test I then took a distribution disk from my *3-Lib* Shareware Library and tried copying across the Series 3 UNZIP program, installing it, and copying and unzipping a program or two. This posed no problems at all and was all done while sitting on my sofa, well away from a desktop machine!

The price of the RangerDisk 3 seems on the high side, especially in view of the fact that you need a 3Link to connect to it, taking the total start-up cost to about

InfoBox

The RangerDisk 3 is available from most Psion dealers at a RRP of £199.95+VAT, or directly from Ranger Computers Ltd at this address:

Ranger House
2 Meeting Lane
Duston
Northampton NN5 6JG

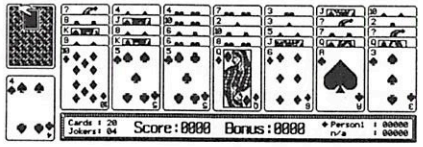
or telephone (01604) 589200

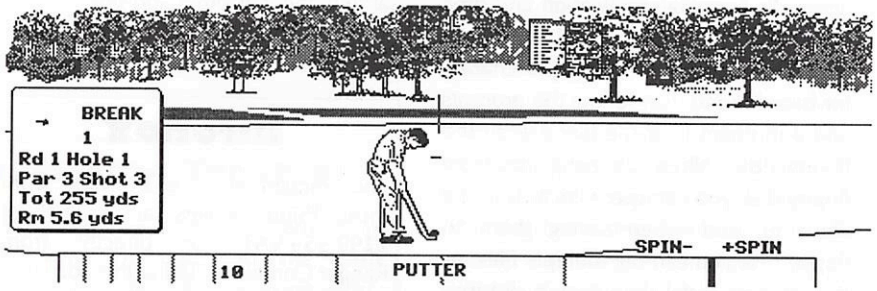
or fax (01604) 589505

The RangerDisk works on all Series 3 and 3a machines (and requires the *3Link*), and also on the now discontinued Psion MC400 laptop (without the *3Link*, of course).

Psion Games 3a

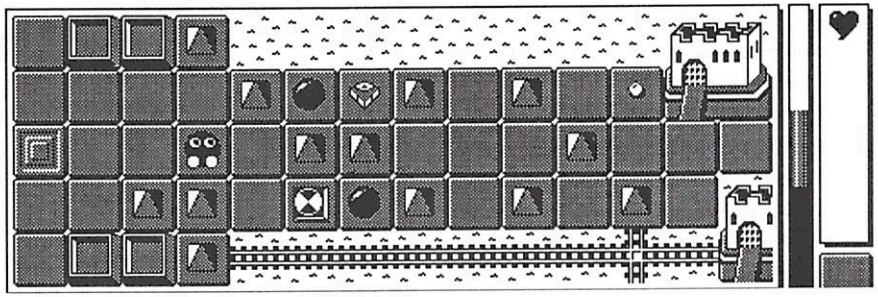
The *Psion Games 3a* pack could be sold simply as a means of demonstrating the 3a's graphics and sound capabilities. You can get some idea of the sophistication of each game by the fact that they average around 100Kb each in size, though don't be daunted by the size nor by the voluminous 140 page manual (It's in six languages). The games are all very simple to learn, though not so simple to master.



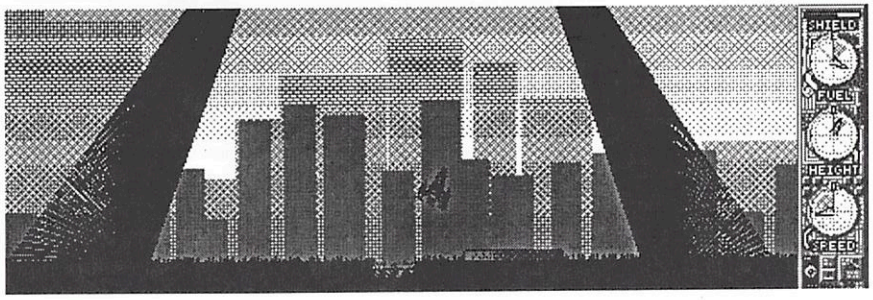


FAIRWAY is the latest version of Steve Litchfield's excellent shareware golf game. The mechanics of the game are similar to most other computer golf simulations, employing the usual three-keystroke method to control the power and the hook or slice on the ball. Club types can be manually or automatically chosen, prevailing wind and ball lie are of course taken into account, and the choice is offered to play either in a tournament (against some frighteningly good hypothetical opponents) or just to practice alone. The graphics are impressive and the program displays an aerial view of each hole before it is played, flashes the pin position at you before taking the first shot, and shows you the scorecard after each hole. Sound effects include a satisfying 'thwack' as you tee off a four hundred yarder, with clapping and cheering when the ball is holed. You don't have to be a golf player to enjoy this one—I'm not!

HOMERUN is identical to the Patience (solitaire) game included in the new 1 and 2 megabyte 3a's. Like almost all of the games on this pack it started life as shareware. I don't know the origin of Homerun, and I searched through five books on the subject without finding any reference to it. It plays differently to the classic 'Klondike' game in that cards are not built onto four aces, but in ascending or descending sequence onto the discard pile—regardless of suit. If you succeed in clearing the seven piles of cards then Homerun adds a touch of gambling to the game by allowing bonus points to be earned on the turn of the next card from the pack. This style of patience has a real benefit on the 3a, as the disregard for card suits obviates the need to distinguish between tiny black and red suit markers on a black/grey screen. This makes Homerun very easy to play under dim lighting conditions. A good game, though I prefer Widget's *Solo*.



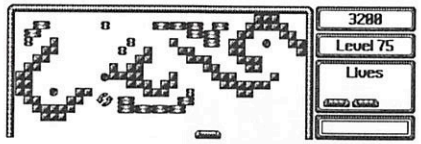
BOMZ3a is a new version of the shareware game included in their Games Pack 1 for the original Series 3. It's an unusual game that I've never seen on any platform other than the Psion. It's a sort of multi-level logic puzzle with a bit of dexterity built in. The objective of each of the 80 levels is to navigate your little creature around a tiled maze and to pick up all the little circular 'crystals' before taking the exit door into the next level. Many of the tiles have special qualities though, and what with the numerous obstacles, bombs, 'homing bombs', warp tiles, sliders, etc. the whole process can be quite fraught. The dexterity comes in on just a few of the levels when you are required to clear certain obstacles and then 'run' quickly around the screen to avoid the homing bombs or to jump onto moving tiles. The whole thing is immensely enjoyable and challenging, and from a personal point of view I would consider this to be the best game currently available for the Psion 3a.



LANDER is the brainchild of our own 'resident' programming author, Andrew Baldwin. In terms of animation, sound and graphics this is probably the most impressive of the bunch. The object of Lander is (not surprisingly) to 'land' a small rocket-like spacecraft on various planets, picking up valuable cargoes at each destination. The game 'controls' are simply the left and right arrow keys to rotate the 'ship' plus the space bar to thrust the engines to move you in whatever direction you are facing. The interest of the game lies in the fact that each planet has different gravity and atmospheric characteristics to affect the way the ship responds to the controls, and there are many types of landing pad, various obstacles to fly through and even the occasional war zone to dodge! Each successful landing allows cargoes to be sold, shields to be repaired and appropriate fuel levels to be loaded, then its off into hyperspace for the next mission. Lander is a very polished piece of software, and the animated introduction (with music!) is hilarious—though you'll have to buy the pack to find out why...

POPOUT is a variant of the old 'paddle and ball' game. You have a small 'bat' with which to deflect a ball to bounce off the top and side walls of the screen and the various 'bricks' littered around it. The bricks disappear when the ball hits them and certain bricks release one of 14 different objects that 'fall' down the screen to either help or hinder the player. These offer such aids as a larger bat, a slower ball, a gun on the bat, extra lives, etc., and hindrances such as reversing the direction of the bat, instant death, temporary freezing of the bat and so on.

The animation is impressive, though a little slow at times. With 100 levels to negotiate, Popout should keep you amused for several hours.



Like the new Widget Games 3a, none of the games here will run on the Series 3 'Classic'. For 3a owners this has to be the best collection of games ever. Very highly recommended.

Steve Clack.

InfoBox

Psion Games 3a is priced at a RRP of £39.95 including VAT.

The games are supplied on a 512K ROM SSD which is *not* reusable for other data. Each game takes up to around 100K free memory in which to run.

Do you HATE games? Don't worry—Palmtop isn't developing into a games magazine. There will normally be only one game reviewed in each issue.

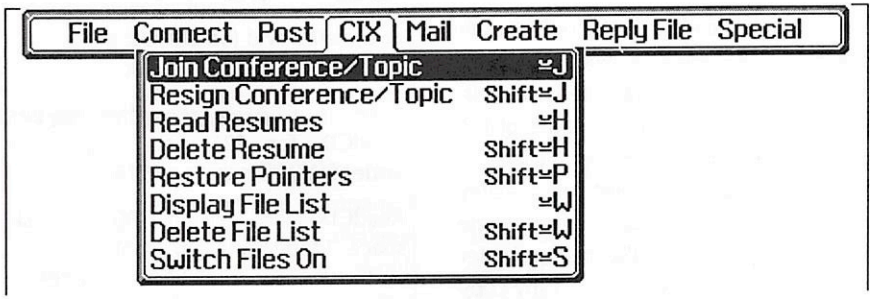
ReadCIX

Following on from Pete Sipple's 'Getting Connected...' article in issue one of *Palmtop* here is a closer look at one of the 3a OLRs (off-line Readers) discussed—ReadCIX.

OLRs save you money by minimising the time spent connected to an online service such as CiX or CompuServe. Without some kind of OLR all communication must be done while actually hooked-up via your modem, thereby accumulating large telephone and service connection charges in the process. ReadCIX will dial into CiX (a major UK-based service provider—see Pete's article in issue 1 for a full description), collect all your mail and conference messages into a special file known as a 'scratchpad' and download it to the Psion. It can also upload or download files or binmail (binary files) and then automatically disconnect when finished—all without any intervention from the user. The downloaded data is then posted into individual conference files for later reading off-line at your leisure. The program allows the scratchpad and individual files to be stored on any drive of your 3a, allowing you to make the best use of the Psion's limited storage. If things get too cramped, either the files or the scratchpad can be placed on another computer attached via the 3Link and read or posted from there.

Scratchpads can be archived for later transfer into a desktop OLR such as AMEOL, which is useful if you only use the Psion and ReadCIX whilst away from your regular home/office system. The scratchpads are fully compatible with AMEOL, so no special conversion is necessary.

An individual conference can be selected once posted and the messages read; ReadCIX attempts to make the best use of the small screen size by allowing three levels of zoom and by reformatting the message to fit the screen. Whilst reading messages, any replies or new messages can be created using the 3a's built-in word processor; unfortunately no word wrap is available here, so you have to remember to press enter at the end of each line. I found this limitation



Some of the features available within ReadCIX

rather annoying, so let's hope a future version of the program will incorporate full word-wrap.

Individual messages can be saved or printed from ReadCIX, and when reading a comment you can view the original message or search for a text string within a conference. Another convenient feature allows you to start the word processor and jot notes into a separate file.

Other recent refinements to ReadCIX include the ability to send faxes using the CiX fax gateway, and several options to help manage your CiX sessions, such as restoring pointers, displaying and clearing mail baskets and joining or resigning conferences.

For more advanced users, ReadCIX allows additional connection scripts to be created, each called from an option on the connect menu. ReadCIX comes with a few of these to allow file lists, Résumés and billing details to be downloaded, and one to collect mail without downloading replies—handy for busy days when you haven't time to read all your messages.

In summary, ReadCIX is the only proper 3a-based OLR for CiX, and despite its lack of thread handling, Usenet access, on-line address books and some of the other refinements of desktop OLRs such as AMEOL, it offers good functionality considering the abilities of the machine it is running on. It is also getting better all the time, as I only registered my copy back in January and have received two or three major upgrades since then! A very nice touch is that the author, David Keppler, always sends updates to all users automatically by e-mail. Considering the very modest registration fee of £12 David have obviously put a lot of work into ReadCIX, and he really goes the extra distance to look after his customers. If you ever plan to access CiX on your 3a then you *must* buy this package—the savings on connection charges alone will pay for it in a matter of hours.

The author of ReadCIX also produces a similar OLR for CompuServe, known as ReadCIS. This will be reviewed in the next issue of *Palmtop*.

Steve Clack.

InfoBox

ReadCIX (currently version 4.30a) is available from the usual shareware sources or direct from the author, David Keppler, at this address:

1 Field Close
Beyton
Bury St Edmunds
Suffolk IP30 9AB

or e-mail David (on CiX) at:
salex@cix.compulink.co.uk

Price is £12, or you can register ReadCIX for $25 on CompuServe under SWREG number 4515.

ReadCIX takes around 100K of disk space (depending up configuration), and does *not* run on the Series 3 'Classic' machines.

The Power Principle

By
Nigel Wright

Although in most respects a rather dour topic, batteries are something every Series 3 user must attend to, and the reliability and correct use of these mundane everyday items is vital in order to avoid catastrophic data loss.

Main batteries

The Series 3 uses two AA (also known as MN1500 or LR6) cells. There are two main types of battery: rechargeable and non-rechargeable. Amongst the former, Nickel Cadmium is by far the most common, though a new type called *Nickel Metal Hydride* (NiMH) is now starting to become available. Non-rechargeables include *zinc-carbon*, *zinc-chloride* and *alkaline*.

Non-rechargeable

Zinc-carbon and zinc-chloride have little to commend them in comparison to nicads (Nickel Cadmium) or alkalines, as the AA types have a capacity of only approximately 400-500mAh (milliamp-hours). This would give only 10-20 hours use on a Series 3/3a.

Alkalines are the major consumable battery type: they offer high capacity, long shelf life, predictable performance and operate over a wide temperature range. Of all readily available types they are probably the most versatile. The *Duracell* AA battery offers a typical terminal voltage of 1.5V at no load and a capacity of 2600mAh down to 0.8V. Alkalines have a recommended exhausted voltage level of 0.8V, but in reality this means a useful capacity of 1800-2000mAh can be expected in your Series 3. *Duracell* have recently introduced a new type with a dull copper-coloured top which they claim to have an extended life, though my personal experience does not seem to bear this out.

There are obviously many brands of alkaline batteries. *Duracell* are always a firm favourite, but for UK users I have also heard good reports about *Boots'* own brand. Buying batteries in bulk packs of twelve can save money, so it is

worthwhile to plan ahead with your purchases.

A new type beginning to appear in the UK is the *Energizer Lithium*. Some confusion exists about this as it isn't a *true* lithium battery, but instead it utilises *lithium iron disulphide* rather than the usual *lithium manganese* technology. This battery is about 30% lighter in weight than the normal alkalines, offers a capacity of up to 3000mAh, plus better life at sub-zero temperatures. In the Psion, up to 120 hours of operation is quite possible. Unfortunately, these batteries cost approximately three times the price of plain alkalines and therefore represent poor value for money. Unless you are going to be without supplies for some time then I cannot recommend them. At this time they are also difficult to obtain in the UK.

Rechargeables

Nicads (Nickel Cadmium) are by far the most common type of rechargeable battery and are a well understood technology. They come in several capacities, commonly ranging from 500 to 800 mAh—significantly less than the alkaline types. Higher capacity types are also available, but tend to be more expensive. NiMH (Nickel Metal Hydride) types are also available, and have capacities extending to 1500mAh. Both nicad and NiMH have a lower terminal voltage of about 1.2V, though this doesn't represent a problem as most alkalines soon drop to this level in use.

Nicads aren't recommended for low power applications such as clocks and calculators where frequent replacement isn't likely, nor will they function below -30 degrees C—though this shouldn't affect most Psion users!

With their lower capacity nicads obviously have a shorter life than alkalines, and I generally obtain 14-18 hours from a set of 650mAh cells. The capacity, however, can be seriously damaged by poor charging and there are several rules to be followed in order to achieve good life:

- ⇨ Avoid quick chargers: the charge rate (in mA) should be approximately 1/10th of the capacity (in mAh).
- ⇨ Never charge a partially discharged battery.
- ⇨ Fully discharge nicads singly through a small torch before charging.
- ⇨ Do not leave them unused for long periods: the electrolyte tends to crystallise, which in turn leads to a reduction in capacity.
- ⇨ Obey the charging instructions: don't charge for longer than recommended. This causes overheating.

Following these simple rules should ensure a life of well over 1000 cycles.

One rather unfriendly characteristic of the 'nicad' is the way it expires very quickly: after the first low battery warnings it is only a matter of minutes before total collapse. Ironically, this behaviour also makes it quite easy to

predict how long the batteries will last, and it is wise to get into the habit of replacing your nicads *very* soon after the first low battery warnings appear on the screen. Persisting to use the Psion with the batteries in this state can result in hang-ups and even lead to a system reset. It's very easy to be caught out in this way, so if you use nicads then always carry a set of spares with you.

Some readers may be wondering about something known as the 'memory effect' which nicads are purported to suffer from. This is the phenomena whereby a nicad's capacity is reduced if it is charged from a partially (rather than fully) discharged state. If this is done regularly then it 'remembers' this partially discharged state as being fully charged: in other words your batteries won't last as long the next time they are used. The solution is to always discharge nicads fully before recharging.

Initial outlay for a set of nicads (£6-8 for a set of four) plus the charger (£10-15) is quite high, but with a full charge costing only 2-4p the costs are soon recovered. Personally I prefer nicads to other types, and the only time I would use conventional batteries would be when going abroad (where it would be inconvenient to use a charger). Try to buy a charger that can charge two or four batteries at a time with a current of about 50-80mA. Some now come with built-in dischargers to prolong life and capacity.

Solar powered units are available for those particularly concerned about the environment, and they can charge two AA cells in 4-6 hours or four in 10-14 hours (somewhat tricky with British weather!)

Nicads aren't quite as environmentally friendly as one might think. When finally exhausted the cadmium presents a significant disposal hazard. The recharging process also consumes a small amount of electricity, but when compared to conventional types they are more environmentally friendly in the long-term. The manufacturing of an alkaline battery uses about 30% more power than the battery itself can deliver, and if you take into account the amount of metal and packing involved then the nicad is streets ahead.

NiMH are now starting to find their way into laptop computers, which are a particularly demanding application where nicads have a very short life. I don't have experience with this type, but I understand that they are more suited to high drain applications such as lighting and motors. This is borne out by the fact that some users have reported lifetimes actually worse or little better than nicads. NiMH also has a relatively high self-discharge rate which, means that they shouldn't be left charged and unused. Apparently, NiMH isn't susceptible to 'memory' effects, but with a shorter life of 500-1000 cycles and a higher purchase price (around £5 each) they don't appear to be suitable for the Psion.

Backup batteries

Both the 3's and 3a's use a CR1620 *lithium manganese* battery for backup purposes. This is used for data retention during main battery replacement and is the same type used for memory backup in RAM SSDs. It is a 3 volt type with a capacity of approximately 70mAh. Shelf life is extremely long, possibly as much as ten years. Operational life inside the Series 3 is generally around 1-2 years. It is important to note that the life will be seriously reduced if the user persists in running the main batteries for as long as possible after the first low battery warnings. This is particularly relevant to users of nicads. Some users have suffered from corruption of data on the internal drive when changing the main batteries. I can only assume that this is in cases where the machine's backup battery was also flagging.

There have been difficulties reported (in the UK, at least) in obtaining the CR1620 battery, and consequently some people have tried using the CR1616 instead. This has a rather lower capacity of 50mAh and is also thinner than the CR1620. This is *not* recommended, as it may cause intermittent contact with the battery holder terminals and subsequent data loss.

A wise replacement interval would be once every year, especially for RAM SSDs. Don't forget to back up your data before doing this though, as everything on a RAM SSD will be lost as soon as the battery is removed!

Factors affecting battery life

The battery consumption of the Series 3 is excellent, often reaching 70 hours with alkalines. Unfortunately, adding SSDs and making regular use of the serial link or sound facility can drastically reduce this. Typical consumption as estimated by the internal monitoring is 25-30mA without any accessories attached. This can rise to 30-50mA or more with heavy use of the link or loudspeaker. Formatting large flash SSDs also represents a serious battery drain, and if you are a nicad user then it is advisable to use a mains adaptor whenever performing power hungry operations.

Mains adaptors

Any properly regulated mains adaptor giving 9-10 volts DC and up to 500mA can be used (the Psion unit is capable of 170mA). Higher load ratings are advisable for stability, and if you use a device with a low capability then it may give trouble when formatting. Avoid cheap unregulated units at all costs as the output tends to be noisy, and can vary by as much as 30-40% dependant upon the load; this could seriously affect the Psion's health. Personally, I prefer the Psion adaptor as it is designed for that purpose only, is guaranteed to work, and is the only one which won't invalidate your warranty!

The new 1 and 2Mb machines have a higher battery consumption than the other models—see page 49 for more details - Ed.

Programmers' Workshop

by Andrew Baldwin

If you read my workshop in the first issue of *Palmtop*, then I hope you found it useful. This time I'm going to be examining three programming topics: for beginners there is a look at some fundamental OPL ideas, then a round-up of other programming environments for the more adventurous; finally I'll be investigating OPL's mysterious SEND keyword and its relatives.

Firstly, if you are the proud owner of one of the new 1 or 2Mb Series 3a's then you won't have received a Programming Manual with it. If you don't already have one from a previous machine then I would highly advise you to send off for it using the coupon supplied with your machine. OPL allows you to achieve things which would not be possible using the built-in applications, and the manual provides an essential introduction to the language.

Isn't life EVENTful?

'Events' are the topic. Don't be put off by the OPL manual—they really are simple. Have you ever noticed how all the really good Series 3 programs (such as the built in apps) hardly ever go deaf to user input? *(Did you ever see an hourglass or watch icon on a Series 3?—Ed.)* The reason for this is that they are constantly listening for **EVENTS**. So what exactly is an *event*?

Well, an event can be one of many things; the most common type would be a key press. If the user presses a key, then the operating system tells your program that a *key event* has occurred. Your program can then check to see what the event was and process the key accordingly. If your program interfaces with the user via menus, then your program will almost certainly need to check for the **MENU** key, and also for the hot-key combinations displayed by each menu item.

So how is all this checking done? Well, there are two important keywords we can use: the first and most important is **GETEVENT**. When this is called, your program waits for an event to occur, then identifies it when it happens so the program can handle it correctly. Now, you may be thinking 'but how can my program do anything and ***still*** listen for events?'—well what we need in this case is the **TESTEVENT** command. This tells you *immediately* if an event is waiting to be processed by **GETEVENT**, so your program knows whether or not to call it. Let's illustrate these principles

with a small program (please refer to **Listing 1**).

When you run it, the program displays a digital clock in the top left corner of the screen. In addition however, it is *constantly* listening for events by calling the **event:** procedure repeatedly. If no event is pending, then TESTEVENT returns 0 (no event), and the procedure returns (continues); otherwise GETEVENT is called and the program then checks for certain occurrences: firstly, if the MENU key was pressed, then the program offers the user a single menu option to exit the program. If the user selects a menu option then the program simulates the appropriate hot-key; it then goes on to check if *escape* or the *Psion-x* hot-key was pressed. If either was, then it jumps to the exit routine to confirm that you really want to quit.

Whilst this is a fairly simple program, it exhibits the basic principles of a good application from both a user's and a system point of view, and it would take little work to turn this into a proper application—something we will look at next time.

There's more to life than OPL...

Although OPL has a lot going for it, there are some areas in which it doesn't excel. For intrepid programmers there are a number of alternative languages you can use when programming.

Here is a brief look at some of the alternatives available:

Getting your hands dirty

At the heart of every Series 3/3a is an NEC V30 processor which runs the same instructions as the Intel 8086 found in many early generation desktop PCs. Although not as fast as its desk-bound brethren, the Psion is still capable of executing many thousands of instructions per second, and now, thanks to two products from the clever hands of Giles Goddard, it is possible to have direct access to this raw power—even within OPL programs.

The first of his creations is known as *S3ASM2*, which as you may guess from the name is an 'assembler'. An assembler is a program that allows you to write programs in a processor's own native language—well, almost. You actually write using simple **mnemonic** instructions such as *MOV* or *ADD*, which correspond directly to processor instructions; the assembler converts these into the binary numbers that the processor understands.

The advantage of this is that you can write simple programs that run very fast, but the downside is that large or complex programs are very much harder to write than if you were using, say, OPL or C. In fact, it would be almost impossible to use menus and dialogs in a program hand coded in 'assembly'. The real power of the program comes when you include assembly language directly in OPL programs. This way, you can use OPL for all the user interface requirements and the more complex aspects of a program, whilst still having access to the speed of machine code for the things that would normally be very slow in OPL, such as complex mathematical functions.

I can SmallC now

S3ASM is a very useful addition to the Psion programmer's repertoire, and when used carefully can really turbocharge your programs, but S3ASM isn't your only option. SmallC, again from the hands of Giles, is a port to the 3/3a of a fully-fledged C compiler. It does have some limitations compared to a PC-based compiler, but the great thing is that it runs directly on your Series 3, allowing you to edit and compile C programs in exactly the same way as with an OPL program. SmallC offers the speed and power of assembly language, with the programming ease of C or OPL.

To summarise, both of these products are very good, but they can't yet replace OPL; however, when *combined* with it they offer great advantages, and the best news is that they are very inexpensive!

Go FORTH and multiply

This is a real newcomer to the scene, having only just appeared in a beta version on CiX a few days before this article was written. Created by Steve Godfrey, it is a Series 3a implementation of the somewhat esoteric *FORTH* language. It claims to convert all programs into assembly language for maximum speed, though there is currently no support for system calls (which means no graphics). Steve claims this will be in a later version, so I may give a more in-depth review of this interesting program in a future article.

Psion SDK

If you really want to write *professional* quality applications then you generally have only one option—the Psion C *Software Development Kit*. In its standard version, this costs over £150 and requires a PC-compatible computer on which to run. It offers two main ways of writing applications in C: a simpler system (similar in ability to OPL) known as **HWIF**, and a more complicated *Object Oriented* system known as **HWIM**. If you've used C on other platforms then you will have little trouble learning the HWIF system, though it is well worth taking the time to learn the more complex HWIM system, which offers the ability to write applications as good as the built-in ones supplied with the Series 3.

The Wonderful World of Objects

Object Oriented Programming (OOP) is a bit of an 'in vogue' buzzword at the

moment, and indeed most of the Series 3 software is written using Psion's own object oriented HWIM system described above. Whilst the full power of this system is only available using C, the OPL programmer can also access some of the features directly on a Series 3. I'm going to show you how it can be used to achieve something that would normally be much more difficult to do in OPL.

Firstly, a quick description of the Psion OOP system will help to understand the example. An 'object' is simply a chunk of code which is split into a number of METHOD functions. To use the code in an *object*, you must first create it. This allocates all the memory required for an instance of a given object, and gives a handle you can use to send messages to it—one message corresponding to each method function.

We will use OOP to create a variable array of strings. Unlike arrays in OPL which are fixed in size, this type of array can change in size *after* it has been created. This is useful if you don't know exactly how big the array needs to be before you start.

You should be able to follow the example in **Listing 2** by running it and examining the code, but I will explain the function of some important keywords. Since the *Variable Array String* object we are using is to be found in the **OLIB** ROM library, we first need to use the **FINDLIB(cathand%,"OLIB.DYL")** command to access it. We can then create our **VASTR** object using the **pobj%=NEWOBJ(cathand%,6)** command, which returns a pointer to the object in **pobj%.** Our newly created object needs to be initialised with a **granularity** which tells it the largest string we will give it, so we send it a **VA_INIT** message in the form of **SEND(pobj%,17,#gran%).**

After this, we can append a new string to the array whenever we wish, simply by calling the **addvstr**: procedure, and display the contents of the array by calling the **dispvstr**: procedure. There are some difficulties caused by the fact that OPL strings are what are known as **byte counted** (which means they start with a length value byte between 0 and 255), whereas C strings are **zero terminated** (which means they can be of any length but end with a zero value byte). You should be able to see where the program converts between these two types.

This is a simple example program, but as you may guess by the message numbers we have been using, there are a lot of other things you can do with these variable arrays. For example, **SEND(pobj%,2,#recno%)** will delete array entry **recno%, ENTERSEND(pobj%,8,#recno%,#rec%)** will insert the string pointed to by **rec%** at record number **recno%** (rather than appending it to the end), **ENTERSEND(pobj%,6,#rec%,recno%)** will insert the string pointed to by **rec%** in alphabetical order returning the record number in **recno%,**

Program Listings

Listing 1

```
PROC main:
   gBORDER 1
   DO
      AT 2,2
      PRINT hour;":";minute;":";second;"    "
      event:
   UNTIL 0                        REM Never ends
ENDP

PROC event:
   LOCAL even%(6)

   IF TESTEVENT=0                 REM If no event pending, return
      RETURN
   ENDIF

   GETEVENT even%()

   IF even%(1)=290                REM Menu key pressed
      even%(1)=menu%:+512         REM Simulate a hotkey press
   ENDIF

   IF even%(1)=27                 REM Escape key pressed
      exit:
   ELSEIF even%(1)=%x+512         REM Psion-x pressed
      exit:
   ENDIF

   RETURN
ENDP
```

Article continues on page 34 . . .

```
PROC menu%:
   LOCAL m%
   LOCK ON
   mINIT
   mCARD "Special","Exit",%x
   m%=MENU
   LOCK OFF
   RETURN m%
ENDP

PROC exit:
   LOCK ON
   dINIT "Do you really want to exit?"
   dBUTTONS "No",%n,"Yes",%y
   IF DIALOG=%y
      STOP
   ENDIF
   LOCK OFF
ENDP
```

Listing 2

```
PROC vastr:
   GLOBAL pobj%
   LOCAL ent$(254)
   makevstr:
   PRINT "Enter text - Blank line to finish"
   DO
      INPUT ent$
      IF ent$<>""
         addvstr:(ent$)
      ENDIF
   UNTIL ent$=""
   PRINT "The text you entered was:"
   dispvstr:
   killvstr:
ENDP
```



```
PROC makevstr:          REM Create Variable String Array (VASTR)
   LOCAL gran%,cathand%
   FINDLIB(cathand%,"OLIB.DYL")  REM Find OLIB
   pobj%=NEWOBJH(cathand%,6)     REM Create VASTR object
   gran%=254
   SEND(pobj%,17,#gran%)         REM Send initialise message
ENDP

PROC addvstr:(ent$)              REM Add OPL string to VASTR
   LOCAL add$(255),rec%,ret%,recno%
   add$=ent$+CHR$(0)    REM Convert to zero terminated string
   rec%=UADD(ADDR(add$),1)
   ENTERSEND(pobj%,6,#rec%,recno%)  REM Append string
ENDP

PROC dispvstr:                   REM Display contents of VASTR
   LOCAL len%,str%,t%,disp$(255)
   len%=SEND(pobj%,1)            REM Find number of records
   t%=0                       REM Reference records from 0->len-1
   WHILE t%<len%
      str%=ENTERSEND(pobj%,20,#t%)  REM Get pointer to record
      strcop:(str%,ADDR(disp$))     REM Copy to OPL string
      PRINT disp$
      t%=t%+1
   ENDWH
   GET
ENDP
PROC killvstr:                   REM Destroy VASTR
   SEND(pobj%,0)
ENDP

PROC strcop:(from%,to%)  REM Copy from VASTR record to OPL string
   LOCAL len%,f%,t%,val%
   f%=from%
   t%=UADD(to%,1)
   val%=PEEKB(f%)
```

```
   WHILE val%<>0
      POKEB t%,val%
      f%=UADD(f%,1)
      t%=UADD(t%,1)
      len%=len%+1
      val%=PEEKB(f%)
   ENDWH
   POKEB to%,len%
ENDP
```

recno%=SEND(pobj%,9,#match%) will search for an array record matching the string pointed to by **match%** and return its record number in **recno%,** or else a negative error value.

Feel free to experiment with these calls and the example program. Your program may crash, but you should never lose any of the other data on your machine.

Feedback

That's it for this issue. I would appreciate any feedback or questions you may have about any of the topics raised here, or anything related to programming on/for the Psion—if you are on e-mail then you can send them directly to me at **andrew@zarquon.demon.co.uk** or **baldwina@cix.compulink.co.uk**. Otherwise, send them in to ***Palmtop*** and they should find their way to me. Until the next issue....

Andrew.

Sources

S3asm or SmallC are available from the usual on-line sources, or from Steve Litchfield's *3-Lib* library.

What do you want?

If you have a particular aspect of programming (whether it is in OPL, C, assembly language or whatever) that you would like covered in *Programmers' Workshop* then please contact the editor with your suggestions (full contact details on page 2.)

In addition, if you have any comments or criticisms on the general content or layout of *Palmtop* then please contact the editor. We are constantly striving to improve and refine the magazine—so your ideas will be taken very seriously!

TELL US !!

Beyond DATA

Save yourself from mediocre databases !

By Steve Clack

I've always considered there to be a slight anomaly within the built-in applications of the Series 3a. That anomaly is the machine's own DATA application.

The four main 'applications' included when you buy a standard Series 3a (or 3S) are the Word Processor, Spreadsheet, Agenda and Database. In terms of sophistication, three of the four compare reasonably well with their counterparts on desk-bound computers—indeed, I would argue that the 3a Agenda software is better suited to its task than anything I have used on a PC, partly by the quality of the actual software and partly by the portability if the 3a itself. The WORD and SHEET applications compare less favourably to their 'full sized' counterparts, but must be taken into the context that such software for desktop computers is generally 10 or 20 megabytes in size - at least 100 times the amount of 'code' used in the Psion applications.

When the programmers at Psion got around to programming the DATA application, I think they must have either run out of clever ideas (and decided to model it on the old Psion Organiser II), or decided that speed of operation (i.e. 'searching') was of paramount importance. For all the shortcomings of DATA, I have to confess that it searches quite large files at a really decent lick. Apart from its swiftness and the supremely simple operation there's little else to be said about it though—you can't search records on more than one criteria (all occurrences of JOHN who live in PARIS, for instance), nor can you view the details of a subset of data once you have found it.

This said, many months have now elapsed since the introduction of the first Series 3 computers, and only in the last six months have any real alternatives to the standard database application started to emerge. Three very good replacements to DATA are now widely

available, one as freeware and the other two from commercial Series 3 software companies. I've recently been getting to grips with all three packages in an attempt to establish which is the best way to handle your data on the 3a...

The most immediately obvious difference between all three of the packages under discussion and the standard Psion DATA application is the ability to view records not only in the traditional one-at-a-time view, but also in a list-like tabular format. This is often a convenient way of viewing multiple records, and all three packages allow them to be individually 'tagged' from within this view for subsequent deletion or re-saving into a new file. All three packages allow records to be searched on a simple text string just as the built-in DATA application, although in all programs except for DataDeLuxe this generally involves at least one extra keystroke.

Another useful feature of these enhanced database packages is that records can be searched using more than one criteria. This allows you to find all records containing 'BOOKSHOP' *and* 'LONDON', those containing 'BOOKSHOP ' *or* 'LONDON ', or even those containing 'BOOKSHOP ' *but not* 'LONDON ', and so on. The 'list view' mode really comes into its own here, as the retrieved records can then be examined on screen together, rather than having to page through each one singly. This ability to view selected subsets of your databases is of enormous value and can make the data so much easier to interpret. For instance, if you keep a database of your record or CD collection then you can instantly get a list of all your *Beatles* albums on CD—but excluding those over 40 minutes in length, or all the *Abba* double albums in your collection purchased after 1980. The possibilities are endless.

The size of font used in the list views can be zoomed in the usual way to show more records at a time, and the widths of each column can be adjusted to the user's preferences and then these preferences saved for each file. It is often useful to set certain column widths to zero in this way, which effectively hides their data from view while in list view. All databases allow the user to toggle to the conventional 'record' view where all fields are then shown as normal. This technique can be used either to make the list view more readable by hiding superflous data, or to temporarily hide any fields containing confidential information.

All three programs also allow sorting of databases into alphabetical order. DataDeLuxe allows files to be sorted on a single field of your choice, and the other two allow sorting on a maximum of three different fields. This means that they will not only put all the 'Smiths' before the 'Smythes', but will also sort 'Andrew Smith' before 'Brian Smith' and so on. Although sorting generally works well, I found that both JBData and DataView refused to sort very large files due to lack of memory, whereas

DataDeluxe seemed to plug on with quite large files up to at least 200K and beyond.

There is at least a small price to pay for all of this extra functionality. The difference can be barely noticeable on smaller files, but on large files (say an address list containing more than a thousand records) the process of opening or searching a file can take rather longer than with the standard Psion database. The three contenders are inconsistent in this area, with JBData being by far the fastest when sorting (even faster than the standard DATA applications in some circumstances) but very slow to open large files, and the other two much slower in sorting but a lot faster to open the file in the first place.

All of the packages offer other extras such as label printing, and DataView even includes a very competent mail merge facility for producing large quantities of form letters. A more detailed description of the particular features of each package are given below:

JBData

Starting with your lowest cost option, JBData is available as freeware from the usual shareware sources. Written by the prolific John Boyce (author of JBFind, JBSort, JBTree) this compares exceptionally well against the other two packages and even outperforms them in some respects.

As can be seen from the test results, JBData can take an inordinate amount of time to open a data file. In common with the other packages JBData does write some additional configuration and setup information to the data file before first closing it, but this doesn't seem to make the subsequent opening of files noticeably faster. Once open though, the speed of simple searces (like the 'find' function in DATA) leaves the other two standing.

Simple (as opposed to multiple) searches can be done in one of two ways: firstly by pressing 'Psion-F'—this will bring up a dialog box allowing the search string to be entered directly. Pressing *enter* then begins the search, and if using this method JBData searches just a little faster than the built-in Series 3/3a application; the second method requires the selection of a single field as the *QuickSearch* field. Once this is selected JBData employs a simple match-as-you-type find mode, displaying the search string briefly in the bottom right corner of the screen. It simply blazes through the records in this mode, searching at around four times the speed of the standard database!

JBData offers automatic or manual setting of column widths in table view (as does DataView), and both horizontal and vertical gridlines can be toggled to your personal preference.

An excellent feature offered only by JBData is that of performing a global 'search and replace' within databases.

Artist	Title	Media	Time	Notes
Roger Waters	Radio KAOS	CD	41	
Takacs Quartet	Haydn String Quartets Op. 76 4-6	CD	68	
The The	Dis-Infected EP	CD	18	CD EP
Enigma	MCMXC a.D. "The Limited Edition"	CD	60	
Gary Boyle	Electric Glide	CD	36	
Various	Concerts Under the Dome	CD	70	Boccherini / B
SFX featuring Alan Murphy	SFX featuring Alan Murphy	CD	47	
Meat Loaf	Bat out of Hell II: Back into Hell	CD	76	
Alan Parsons	Try Anything Once	CD	60	
Rush	Counterparts	CD	54	
Klaus Schulze	Audentity (1)	LP		AP!
Klaus Schulze	Audentity (2)	LP		AP!
Klaus Schulze & Andreas Gro	Babel	LP		AP!
Joe Jackson	Night & Day	LP		AP!

JBData in 'list view'

This allows entire files to be scanned in the same way as done by Psion's word processor in order to change unwanted text strings. This has a secondary use of enabling any spurious characters that sometimes appear when importing data from other computers to be simply stripped out. On one occasion when I mistakenly imported a Microsoft Excel spreadsheet file with inverted commas at the start and end of every field, my trusty JBData whipped them back out in no time.

Printing can only be done from 'record view' and not from 'list view', and although telephone dialling works fine for numbers within your own country it will not automatically append external country codes as all the other packages do. Individual files can be password protected (as with DataView), an extremely useful feature in itself.

Partly because of its superior searching speed on large files, I have to say that of the three packages reviewed I prefer JBData for most general database work. Whereas it lacks certain enhancements found in the other two programs it does 90% of what I want both quickly and efficiently. The dreadfully slow opening of large files can be overcome by leaving them open continuously, and this outweighs (for me) the much slower searching of the other two programs.

Considering the price of the software —ZERO, this overall performance is quite astonishing. JBData even comes with a good quality manual in the distribution file, and full on-line help. If you have any questions about the package then the author will even take messages by e-mail. Even if you purchase one of the other databases for your work, it costs nothing to keep JBData on your machine at the same time. There is nothing to stop you from installing all three packages on a single machine and using them all to access the same files. Files cannot of course be opened by two programs at the same time, but the data itself is entirely compatible between all three, and with DATA.

Ironically, JBData is probably the one product of the group most likely to be updated and refined as time passes. It has already been through at least TEN

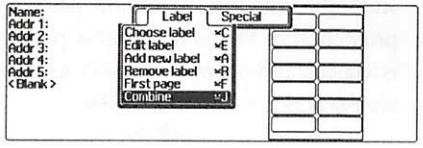
revisions since its release last year, and John always seems keen to continuously improve his work—being very meticulous about the software he offers to us all for free. Nice one John.

DataView

Recently introduced by *Purple Software*, DataView is the most recent addition to the market. The basic concept of list views is utilised in a similar way to the other two programs, and DataView boasts a few particular features either not found or not so well implemented in the others.

Firstly, DataView is the only program to offer printing from the list view—the others will only print single records in the same way as the built-in database. Secondly, label printing with DataView is in a different class altogether: the software not only comes pre-configured with settings for 23 different *Avery* standard labels, it also shows a neat on-screen preview of the label type selected. The software cleverly shows only European label formats on non-American machines and US formats on the American ones. And just in case you don't use *Avery* labels, custom types can also be added as required.

An interesting addition to the feature list of Purple Software's offering is that of



handling mail merges. That is to say that it will take multiple addresses from a database and combine them with a specially prepared word processor document in order to produce so-called 'form letters' and other such documents. This is not something I would envisage many people wanting to do on a Series 3, if for no other reason than it being something usually undertaken by business ventures; these people would commonly keep their customer or prospect details on a desktop computer and also have the means to create the merge file from that computer too.

Previewing a 'merge'

Nevertheless, I tried out this facility on a mailing of several hundred letters and can confirm that it works admirably. If you have a pressing need to do label printing or mass-mailings from your Psion then buy DataView now.

The basic list view of this software has some nice touches to it also. In addition to the automatic setting of column widths based upon the widest records, DataView allows each column width to be adjusted on-screen simply by pressing *shift-left arrow* or *shift-right arrow* to widen or narrow them. This contrasts with the somewhat clumsy method of entering character or pixel widths in a

separate dialog box in JBData or DataDeLuxe.

When manipulating lists of records, DataView also scores by allowing the screen to be split into two halves (not literally!) and for records to be moved between the two lists before re-saving under new file names. All these features show an obviously well thought out piece of software and some pretty impressive programming ability.

Convenient split lists in DataView

Were it not for the very slow searching speed of DataView on large files then I would probably pronounce this as my preferred software. If ever Purple produce an upgrade to address this shortcoming then I would recommend DataView wholeheartedly.

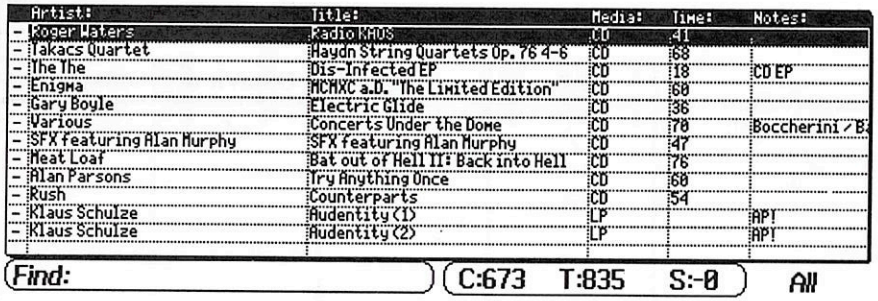
DataDeLuxe

Written by the interestingly named Belgian company, *Pocket & Soul*, DataDeLuxe is now in its second major incarnation. Version 2, released in the second half of last year was plagued by a couple of rather nasty bugs, and languished on my 3a, barely used. Version 2.5, released early this year appears to have cured all such bugs, and *Pocket & Soul* have taken the opportunity to make some major changes and improvements to the user interface.

'DeLuxe' is perhaps the easiest to use of the three programs (though all are quite straightforward), partly because it includes the familiar 'Find:' box at the bottom left corner of the screen, and simple searching is done in the same way as in the standard Psion database application—without the need to invoke additional dialog boxes. Search progress is also usefully displayed in the bottom right of the screen via a box showing the total number of records in the file, the number of the record currently being read and a count of the records tagged for deletion or moving.

This information does, of course, reduce the space available for viewing the actual data though, and the smallest font size DataDeLuxe employs for viewing is something I find ugly and difficult to read. This font is smaller than the standard sans-serif 8 point used by the other two packages, and indeed the 8 point font is not available at all. The alternative is to use the next larger size up, which (for my own preference) is just a little too big.

The general feel is very good though, with most features of the other two programs included. On the minus side, it doesn't include auto setting of column widths in list view, offers no password protection of files and the label printing is via an add-on module with a rather clunky Series 3 'Classic' interface.

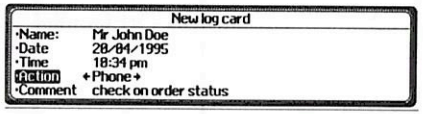


DataDeLuxe—plenty of on-screen information

Speed of DateDeLuxe is generally good, with the fastest file opening perfomance and the best ability to sort large files without keeling over. Searching speed is somewhere between the other two, with quite acceptable performance on modest sized files.

Like DataView, 'Deluxe' is equipped with a special feature that sets it apart from the others. This is something *Pocket & Soul* call 'Log' files. These allow secondary records to be 'attached' to existing database records in order to create a rudimentary type of contact log.

Pressing 'Psion-R' from within a database record brings up a dialog known as a 'log card' which allows the user to input an action and comments in a timed and dated note. This is really intended primarily for address and contact lists, and is particularly useful for noting the next action due for a particular person or entity on the list. In addition to a time, date and title for the 'log', an 'action' type can also be selected from a configurable multiple-choice list available at the touch of a button from a pop-up dialog box. This is helpful in speeding up the whole process of logging your next tasks.



All logs for a given database can be examined and sorted by field or date, and can be viewed together as a separate file using a small add-on known simply as 'Log', and can be edited or printed (in record view only—like JBData). If you want a simple contact management facility in your database then DataDeLuxe is a good choice.

As a final note, all of the databases reviewed need around 50-100K of free space in which to run—far more than the built-in application. Always bear in mind that these packages will run happily alongside DATA, so you can always revert to that for certain tasks.

A comparison of the major features of each program are given on the next page, together with a small sampling of representative benchmarks.

Comparitive performance and features - JBData, DataView, DataDeLuxe				
	DATA	JBData	DataView	DataDeLuxe
Includes enhanced 'list' view?	✗	✔	✔	✔
Number of font sizes available	4	5	4	4
Boolean sort options	—	AND/OR/ XOR/NOT	AND/OR/NOT	AND/OR/NOT
Auto column widths in lists?	no list view	✔	✔	✗
Printing in list view format?	no list view	✗	✔	✗
Password protection option?	✗	✔	✔	✗
Max. number of sort fields	no sort facility	3	3	1
Search & replace facility?	✗	✔	✗	✗
Mail merge facility?	✗	✗	✔	✗
'LOG' view facility?	✗	✗	✗	✔
International auto dialling supported?	✔	✗	✔	✔
Time to open 'file A'	6 seconds	22 seconds	7 seconds	6 seconds
Time to find last record in 'file A' *	12 seconds	11/3 secs. **	32 seconds	19 seconds
Time to sort 'file B'	no sort facility	10 seconds	7 seconds	6 seconds
RRP including VAT	(standard)	FREE	£59.95	£69.95

Notes:

'File A' is 200Kb in size, with 2000 records of 9 fields each.

'File B' is 65Kb in size, with 800 records of 7 fields each. Only DataDeLuxe would sort 'File A' on a 512K 3a without giving out-of-memory errors.

* Find was done using a five character text string from within the relevant record.

** Fast time was when using JBData's *QuickSearch* facility.

JBData runs on Series 3a's only and DataView will not run on a 128K Series 3.

All benchmarks give representative information only and are not intended as a definitive guide to each product's performance.

"On The Net"

The latest gossip from the Information Superhighway . . .

As part of a new and ongoing series here is a brief round-up of some of the more interesting of recent discussions from the various on-line Psion conferences.

Pete Sipple.

First off, a few comments about Issue One of Palmtop...

"I've subscribed and can only say that I'm pleased with the mag—just about the right mix of reviews, chatter and programming. I've got little else to say, other than I tend to agree with most of what's been said by others. My only concern is that the quality of the articles is kept high and that Steve doesn't run out of good ideas too soon!"

- russnh@cix.compulink.co.uk

"Comment on 'InfoBox': I think this should always say how much storage the program needs and how much memory to operate. Also whether available on PC disk, SSD, or both. If many/most things come only on SSD one would have to plan purchases carefully, to avoid having to buy a further SSD each time. As an 'ordinary person' user (interesting that Psion withheld the programming manuals on the new machines to avoid putting us off), I would want to know exactly how to insert a new program into the Psion—presumably a manual or read.me does this in each case?"

- jwanklyn@cix.compulink.co.uk

The arrival of the 1 and 2 Megabyte Series 3a's have been headline news in all of the conferences. Ian Hunter seems to have been one of the first UK users to get hold of one...

"It's true, I have it sat here in front of me right now. I know that you already know about the extra bits and pieces that are on the 1Mb and 2Mb machines, but what you probably don't know is that there is still a 512K limitation for running applications—the only good news on this front being that any files stored on the internal drive appear to use the other 1.5Mb first before encroaching into it, so you may still notice a small improvement."

- hunteri@cix.compulink.co.uk

Once news of the machine was out, several users asked...

"I bought myself a 512k S3a for Christmas with my usual immaculate timing. Does anyone know if Psion will be offering upgrades to the 1Mb version?"

- jrennie@cix.compulink.co.uk

The answer seems to be...

"They've given a definite 'no' to that here. It means a complete new system card."

- jhurwitt@cix.compulink.co.uk

Several users of the new machines have noticed that Psion have made some changes to the screen and keyboard. As usual, these have had a mixed response from the community..

"I got my new 2Mb and the first thing I noticed was the difference in screens between this and my old 512Kb. I would have described my old screen as 'grey', but I can see how some people might say it was green... although the new one has a definite brownish tinge. It's not the colour itself which is a problem, but the contrast adjustment is nowhere near as good. While on the subject of the new 2mb—I just can't get used to the keyboard (yet)... it really shows up my typing skills (or lack of them)."

- Steve Talbot, Brussels 100544.2574 @compuserve.com

"I really like the new keyboard feel. I have had different machines in the past that had completely opposite feels to them. However, for some reason the new machine feels bouncier to me, and lighter. It's hard to explain but I think it was a change for the better."

- Mark Esposito 72662.3050 @compuserve.com

Possibly the most contentious recent issue is the offer made by Widget Software (a large UK-based Psion dealer) of a £60 trade-in, allowing users of series 3a's to upgrade to a 1 or 2 Meg machine...

"Who are Widget trying to kid? Has anyone else received their 'Exclusive Trade-in offer'? According to their letter, only so called 'valued customers' will be fortunate enough to get the offer. They are prepared to give me a rather generous £60 for my 3a if I choose to trade it in for one of the new 3a's (Series 3 owners please do not be disappointed, you get a whole £30). I have bought goods from Widget in the past and have found them excellent but come on Widget, show a little more respect to your 'valued customers' if you wish for them to remain that way."

- binesh@cix.compulink.co.uk

Several users voiced their agreement, but others responded in Widget's defence...

"Widget made an offer to buy back machines. They made an offer they could afford. They don't say 'You must sell your machine through Widget', they just made an offer. If you can be bothered to advertise your machine for sale, and handle the enquiries and sale, then good for you; you've got more money than you would have from Widget. If not, the offer of a quick bit of money back (albeit quite a small amount) is there. If you take it as an insult, that's your problem. At the end of the day, Widget have to make sure they won't lose out from the deal. If they get hundreds of people upgrading, then the small costs of paperwork, postage and trying to sell the old machines mounts up, and the time will come when the 3a will drop in price or be superseded, and the number of people wanting the second-hand machines will approach zero."

- perseus@cix.compulink.co.uk

On the wish list for the next Psion machine could well be the inclusion of a night light...

"It would be nice if there was an Indiglo S3a, watches which have it look excellent from the advertisements."

- benc@donor2.demon.co.uk

"You can buy torches with a head-band mounting at a well-known UK DIY chain for less than £10 (if memory serves), which provides enough illumination to use the Psion happily. (I've tried this whilst travelling in the back seat of a car at night - it looks pretty nerdy, but it works !!"

- sym@ecmwf.int

(Is this really serious?? — Ed.)

Much talk has been made recently regarding the *Revtran* program, which is a freely available utility designed to convert other peoples' translated programs back into the original source code. This was written with the intention that programmers can learn from others' experience or make their own changes. The author points out that profits made as a result of reverse-translation would mean a breach of the original author's copyright, and distribution of altered code should only be with the author's permission. Programs now exist to confuse *Revtran* and prevent this reverse translation—but these are not free. Secretly, some programmers may find *Revtran* extremely useful, but don't like the idea of their own programs being interfered with. Some people would like to see *Revtran* removed from circulation entirely...

"Perhaps Revtran was not a wise choice of program to include as an available file in this conference? Despite protestations to the contrary, Revtran is a real threat to any author who writes in OPL; his code may be pirated or changed without his permission. I would suggest that both Revtran and Oplprot are 'time wasters'

and of dubious moral value. If both were deleted from the conference files then it would be a good thing."

- mharrisona@cix.compulink.co.uk

"Agreed. I also would fully support the deletion of Revtran from the File List! You might be interested to know that the members of the PALMTOPA forum on CompuServe voted not to make Revtran available for download."

- rmillard@cix.compulink.co.uk

And the other perspective...

"I'm against the withdrawal of REVTRAN. I've had cause to resort to it on several occasions to fix faulty code & make modifications where necessary when authors haven't replied to mail or have been non-contactable. I also register any shareware that I use because I'm a decent & honest chappie...and the methods that can be employed to defeat REVTRAN are well known. Driving Revtran underground by banning it smacks of heavy-handed dictatorial censorship, very much against the underlying freedom upon which the 'Internet' was built upon."

- niwright@cix.compulink.co.uk

"I don't see how banning Revtran would achieve a single one of those goals. In fact, I can see how it would more often have the opposite effect. That users can look at other people's code doesn't automatically mean that they will pirate it. Maybe they just want to learn something, and that can only help shareware authors—not hinder them!"

- ronald@cix.compulink.co.uk

Another hot issue in the last few weeks has been Psion's decision not to include the Programming manual with the 1 and 2 Mb machines...

"I don't think the manual should be an EXTRA COST OPTION from Psion. I used the one with the 3 and 3a, and if they are NOT going to included it with the 3a 1/2MB or whatever replaces the Series 3's, they can do without my business. The manual is a necessary part of the system for those who want to use it, and there should be no question about them being available, and at NO extra cost."

- David Jones 74617.37 @compuserve.com

"I don't think it matters in the slightest whether the manual is free or costs £10. If it is true that 90% of OPL manuals are never used then I don't see why they should be provided automatically with all machines. What matters is that dealers should be required to hold a small stock of manuals for the benefit of those who do want one, so that nobody has to wait for a manual when they buy a new machine. One 'shop' copy plus about 10% of the normal S3a stock level (but minimum of 1) would be about right if the 90% statistic is correct."

- Daniel James 100024.704 @compuserve.com

"This seems very simple to me. If you need an OPL manual buy one, just like you would buy an SDK, 3Fax, 3Link, SSD, AC adapter, or software application. There are all accessories that enhance the basic functionality of the 3a, but none of them are necessities. You pay for what you use—don't ask me to subsidise it by paying for a copy I don't need."

- Dennis Lefebvre 71660.1273 @compuserve.com

"How many of the great programs in the Library do you use? How many of them would be missing if the Psion 3 and 3a had been without the OPL manual? OPL is what makes Psion STRONG in the marketplace. It's THE difference 'tween Psion and Wizard or Boss. Take it away (may as well with no manual) and then where is Psion ??"

- Don Hinds 76004.612 @compuserve.com

A personal organiser with sounds remarkably similar to the Series 3a, was spotted being used by Edina in the BBC's new series of *Absolutely Fabulous*. Was it or wasn't it?

"Doesn't this just prove how incredibly 'sad' we all are? I admit to getting quite interested when I heard the beeps!"

- mark_2@cix.compulink.co.uk

The Internet is notorious for it's FAQ's—A list of frequently asked questions. One of the oft-asked chestnuts applies to the jet-setters amongst us...

"Can I assume that I can take my Psion 3a through airport x-ray equipment without it (or the data) coming to any harm? I know I'm being paranoid, but I just thought I'd check to make sure no-one has any horror stories on the subject. Thanks for any reassurance you can give."

- lan016@nof.abdn.ac.uk

"I have to fly all over the world on a regular basis and my Psion 3a goes wherever I go. It has now been through countless x-ray machines at airports without a single problem. I also carry a Swiss Army knife, another useful tool—this has only caused a problem at Paris airport when security insisted that it went in the hold. Perhaps they thought that I might start unscrewing the wings or something."

- Steve Waterworth stevew@atex.co.uk

On the net yet?

If you want to get in on all this gossip first-hand, then you need to get yourself hooked-up with one of the major on-line services or Internet Providers. See Pete Sipple's article in issue 1 of *Palmtop* for more information on what's in it all for Psion users...

The messages used in this article have been obtained from the following conferences:

CiX: psion

CompuServe: palmtopa

Usenet: comp.sys.psion newsgroup

In addition, if you have access to CiX, then you may like to join the palmtop_mag conference, which is devoted to discussion of the magazine. Your participation in this conference is welcomed.

Psion-related software can be downloaded from the CiX and CompuServe library areas, as well as the newly created comp.binaries.psion Usenet group, or the main Psion FTP archive, at src.doc.ic.ac.uk/packages/psion/icdoc

If you have access to a modem, and would like to join in with the debates in these conferences, you may wish to refer to the 'Getting Connected' article, which can be found in Palmtop Issue 1.

Pete Sipple can be contacted by e-mail at: *psipple@cix.compulink.co.uk*

Heeeeeeeeeelp!!!!!!!!!!

Does anyone have any idea whether it's possible to hook up a Nikon F90X camera to a 3a in place of the usual Sharp IQ-900 link? We have a reader in dire need of assistance!
Please contact *Palmtop* directly if you have any bright ideas...

Classified Advertisements

Psion Accounts & Expenses
(for original Series 3, not 3a).
£10 including postage.

Contact Steve Clack

on (01869) 249287

Spellchecker/Thesaurus	£20
Games Pack 1	£15
Games Pack 2	£15
Games Pack 3	£15
Pipemania game	£15
Wine Guide	£10

- All above boxed with manuals

ALSO

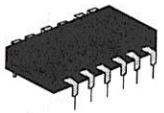
2 x 512K flash SSDs	£60 each
3 x 128K flash SSDs	£15 each
512K RAM SSD	£90

Tel: Peter Furness on (01457) 832484 evenings only.

For any non-commercial concerns, *Palmtop* will happily publish Classified Advertisements, items wanted, services offered, etc. for anything Series 3/3a related. Any such material will be published free of charge, subject to editorial space.

More RAM for Your Money ?

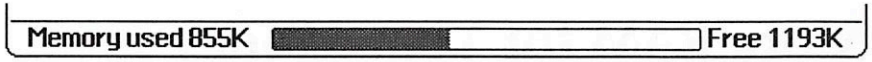
A brief look at the two new additions to the Series 3a range—the 1Mb and 2Mb models



By Steve Clack

At this point most readers will be aware of the recent addition of two new machines to the Series 3a range. The hackneyed term of "Not so much a revolution, but more of an evolution" has never been more true. The two new 3a's are externally identical to their 256K and 512K brethren—save the tiny *1MB RAM* or *2MB RAM* legend on the right side of the machine next to the hinge. Switching on reveals nothing more exciting than a pair of new icons representing the now built-in version of Psion's Spell Checker & Thesaurus, and Patience—a ROM-based version of the popular shareware card game, Homerun. My 2MB machine also shows 'version 3.40F' in the 'About series 3a' box on the system screen and boasts a few new printer drivers, but aside from the extra RAM there is nothing else new—nothing at all.

My brief comments in issue one of Palmtop on the then-impending models suggested that all the extra RAM would be available for running giant memory-hungry applications. This is not so. Both one and two megabyte variants have only 512K available for the running of programs and as with the previous machines a sizeable portion of that is taken up by the operating system. The extra 512K or 1536K is just like a large RAM SSD built into the body of the machine and assigned to the M: drive. Any files saved to the M: drive are automatically put into the 'upper memory' area of RAM, only encroaching on the base 512K of space when the extra RAM becomes full. This is all entirely invisible to the user, and the whole thing just acts like one contiguous block. The only real failing I have noticed in a month or so of use is that displaying the memory bar from the system screen gives no idea of how much space is still available for running programs at any given time—it simply shows the memory not used by programs in the lower 512K PLUS the unused space in the upper 0.5 or 1.5Mb. This is a major nuisance if you tend to keep several files and applica-



tions running at once, as you have no warning as to when the dreaded NO SYSTEM MEMORY error will appear.

I would only consider the new 3a's as an upgrade for people who were otherwise about to purchase a large SSD for additional storage. For first-time buyers, however, they represent exceptional value for money: taking the 2Mb as an example, the additional cost to kit out an old 512K to the same level would involve the purchase of 1.5Mb of extra RAM and the Spell Checker & Thesaurus package. All this would cost about £500 (excluding the cost of the 3a itself) at current prices and require three SSD slots—one slot more than the 3a's actually have available!

The luxury of free space

For myself, swapping from a 512K to a 2Mb unit (both fitted with 4Mb Flash and 1Mb RAM SSDs) has freed up more than 600K of flash space previously taken up by the Spell Checker, and has allowed me to load lots of items I had previously removed due to lack of space. A few people may argue that the internal RAM is slightly less secure than an external SSD, but in three or four years of Series 3/3a ownership I have never had cause to perform a hard reset (with its subsequent loss of all internal data) and feel perfectly safe in storing data on the M: drive (coupled with the usual daily backups—of course). For the production of Palmtop I now have the luxury of being able to keep all the software and shareware I'm in the process of evaluating on my 3a without space restrictions, and can take a couple of dozen .BMP screen dumps (at around 40K apiece) without troubling myself to download them to my desktop machine to prevent the 3a becoming full. I never seem to have less than 1-1.5Mb of free space these days, so I can always load new software without giving the space issue a second thought.

The maximum available storage on a 3a has now risen to over 9.5Mb, taking a 2Mb machine loaded with a 4Mb flash in each slot. When I hark back to my old 16K Psion Organiser in about 1986 then it all seems quite amazing. Although the Psion 3a's are still no match for the current 80Mb of possible storage on the Hewlett Packard HP200LX machine I feel that few people will find this a real limitation. A little storage goes quite a long way in these little computers, and for most people the 1 or 2 megabyte machines will provide more space than they are ever likely to need. For these people the new models will free them from ever having to consider the purchase of additional (and expensive) SSDs.

Talking of SSDs, it's a pity that the new 3a's are not *Type 2 Flash* 'friendly'. For those unfamiliar with Type 2 Flash disks these were introduced about a year ago, and given the right firmware it is possible to selectively re-format discrete sections of the disk rather than the entire SSD. As yet I know of no Psion product that supports them.

Speed & Power

In terms of speed, the new machines can apparently be slightly slower than the 256/512Ks on certain tasks due to the 'paged' RAM filing system employed. I have not noticed any differences to date on my own machines, though I have not run any benchmark tests to confirm this. One thing I have most certainly noticed though is the extra battery consumption of the 2Mb 3a. The average consumption has been between 45-50mA over the last three pairs of alkalines, giving a lifetime of around 40 hours per set. This does not include excessive use of sound or the 3Link either, as I always use a mains adaptor for file transfers. Batteries are now lasting me only 10-14 days per set.

Summary

In summary, Psion have produced two logical additions to the 3a range, and while disappointing some users with the lack of additional software and refinements it is undeniable that in most respects the 3a's are well ahead of the palmtop 'pack', and the release of a brand new 'Series 4' was probably not warranted at this time. The utility value of the extra RAM speaks for itself, I have always considered the Spell Checker to be an excellent piece of software, and am pleased to see it as an integral part of the 3a system software—where I believe it belongs. The Patience game was clearly a bit of trivia to be shoehorned into the last bit of available ROM space, but is welcome nonetheless. If you're looking for a new 3a then do think very carefully about the new models as in relative terms they are quite a bargain!

One important point for the programming fans amongst you is that the Programming Manual is *NOT* included with the new machines, but must be ordered separately at a price of £10.

Recommended price for the new machines in the UK are £339.95 and £399.95 for the 1Mb and 2Mb respectively, though you could have to wait a while—they're very difficult to get hold of at the moment...

Competition time

What are the ten most useful things Psion could (or *should)* have incorporated into the new Series 3a machines?

Write, e-mail or fax your list to PALMTOP (see back page for address details), the most CREATIVE list will be published in issue 3 and will earn the author two free issues!

Hints & Tips

When is a .PIC not a .PIC?

One of the questions I'm constantly being asked is "How do I print spreadsheet PIC files?". To the best of my knowledge it can't be done directly from a Series 3/3a, as the PIC files referred to in the Spreadsheet section of the User Guide are a graphics format used by the Lotus 1-2-3 PC spreadsheet—not the same thing as the Psion's native PIC (bitmap) format.

BUT, graphs (or any other screen images) can be printed using a lesser known feature of the Series 3/3a system software. Simply display your graph on the screen, then press Psion-Shift-Control-S. This creates a Psion bitmap PIC file called 'SCREEN.PIC' in the root directory of the internal M: drive. The file can then be viewed or dumped to your printer using one of the numerous software packages available.

It's not fabulously elegant, but it works!

Steve Litchfield (3-Lib library)

All of the 3a screen shots in Palmtop are 'captured' in this way, then saved directly to an Apple Macintosh in .BMP format via the 3Link using Purple Software's Paint package. Issue 3 of *Palmtop* will feature a comparison of the numerous graphics file viewers and editors available for the Series 3 and 3a—Ed.

Zipping round the SYSTEM

Everyone knows how to navigatearound the system screen using the four arrow keys, but did you know that there are a few other shortcuts to speed up navigation through multiple icons? Here they are:

- If you have the cursor on one of the file names in a long list under any icon you can immediately jump to the top-most item in the list simply by pressing the *Esc* key. A second press of the *Esc* key will take you to the top-most item under the first icon on the very far left of the system screen—scrolling the entire screen as necessary.
- Pressing *Pg Up* or *Pg Dn* (*psion-up arrow* or *Psion-down arrow*) while on the list will take you up or down one vertical screenful of items at a time (the exact number of items depends upon the zoom setting of the system screen).
- *Control-Pg Up* or *Control-Pg Dn* will take you to the top or bottom of the file list under a given icon, no matter how many items are in the list.
- *Home* or *End* will always take you to the farthest left or right icon, and *Control-left arrow* or *Control Right arrow* will traverse your icons one screenful at a time.
- In addition to the above combinations of the arrow keys, you can jump to any file under a given icon by keying in the first letter of its name. In the example below, the first press of the letter 'P' would move the cursor from the 'Income' file to 'Planner', and a second press would move it to the 'Purchase' file.

Graph hopper

You can jump from a 3a spreadsheet to the current graph attached to it by hitting the *diamond* key—that command is obvious from the status bar on the left of the screen, but you can cycle through *all* of the graphs attached to a worksheet simply by pressing the *tab* key.

Steve Clack.

WANTED

Have you just bought a new 1Mb or 2Mb 3a and now have a copy of the Spellchecker/Thesaurus SSD going spare?

- If so, then please contact Dave Morgan on 01934 413212 or 0850 253126, or e-mail to davemorgan@mail.on-line.co.uk

HELP !!

Palmtop needs an artist! Save us from these drab, uninteresting graphics by exercising *your* artistic skills on *Palmtop*.
If you are interested in creating a small but regular supply of good quality Psion-related graphics then please get in touch—Ed.

Little Pictures

Why and how to create your own icons - by Steve Clack

The GUI (graphical user interface) of the Series 3 is a wondrous thing to behold. All those handsome little icons looking up at you from the system screen are exactly what's needed to suitably impress those intrigued work colleagues who look over your shoulder to see what this 'funny little computer' is all about.

From a more practical point of view though these little works of art actually take up a large proportion of the available real estate on your system screen, so they really ought to be made as descriptive as possible in order to best justify their presence. There's little point in having an icon above a file list if it doesn't help you to instantly recognise what files are in that list.

In the majority of cases, however, the user has no say in the matter. Any software you may obtain will almost invariably have its own icon embedded within the program file (see Andrew Baldwin's programming article in issue 1 for more details of this), any changing of these existing icons is not practically possible. Of course, if a program already has a decent descriptive icon then why change it anyway? No, the only reason for the average user to create an icon is when using multiple lists of files under a single application (such as the word processor or spreadsheet) or to create a top-level icon for a file group. I won't go into the mechanics of inserting your icons here, as it is adequately covered in the chapter of the User Guide entitled 'The System Screen' under the heading 'Rearranging and grouping icons'. More importantly, I'll give a little more information on how to create the item in the first place, before then inserting it as outlined in the manual.

It is worth noting that any drawing package capable of creating Psion .PIC graphics files can be used to produce your icons. The only criteria for an icon is that it must be a .PIC file 48 by 48 pixels (dots) in size for a 3a, or 24 x 24 pixels on the original Series 3. If your drawing software also supports the use of the 3a grey-plane then this can be utilised too.

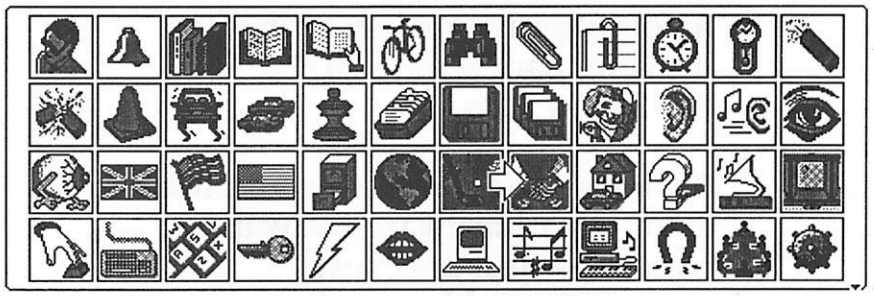
Note that once an icon has been incorporated into a new file list or application group it can then be deleted if you wish as the details of it are stored in the relevent ALS or GRP file. If you want to modify your artwork at any point then you must edit and re-save the icon and create a new list or group. There is no need to delete the old list or group before doing this—just remove it from the system screen with *'Psion-/'* before installing the new one.

If you wish to experiment with drawing your own icons but don't have one of the Series 3/3a drawing packages, then look no further than the freeware utility, ICONEDA.APP. This handy software allows the creation of 48x48 pixel Series 3a icons with consummate ease.

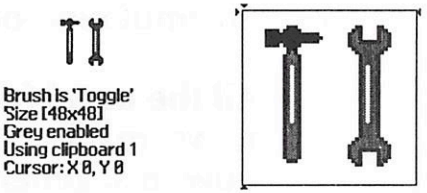
The program opens up to show a square frame in which the icon is then created. Pixels can be individually toggled off, black or grey, and the whole drawn image can be nudged across the frame to re-position while working. Text can be simply combined with the artwork by entering it into a built-in text editor and then pasting into the picture, and Iconeda will automatically create a small range of decorative borders at the push of a button.

Iconeda can be obtained from the usual shareware sources under the name ICONEDA.ZIP, and the single APP file takes less than 15K of storage space.

If you don't consider yourself very talented at drawing then don't despair. *IconBox* by Right Hand Software provides a pre-drawn library of 99 nicely crafted 48x48 icons (for the 3a only) depicting a wide range of subject matter. The required icon is easily selected by moving the cursor to the desired image and then saving it to a location of your choice.



IconBox - perfect for the Artistically Challenged...



Iconeda - quick & easy icon creation

IconBox is shareware, with a suggested registration fee of £10 or $15. It takes around 50K of disk space.

Happy iconing!

Next Issue...

Planned for issue 3:

- A comparative review of the best drawing packages available for the Series 3/3a
- Reviews of *Soundmaster* and the Psion *3Fax* hardware/software, plus the latest and best shareware and freeware
- Macros on the 3a—what's available and how it works...
- 3a emulation on the PC—what is it?
- All the usual features, including news, readers' letters, programming, how-to's, general interest articles and lots more!